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Canada

# **Government of Canada Strategic Plan for Information Management and Information Technology 2017 to 2021**

Published: 2017-11-28

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Published by Treasury Board of Canada, Secretariat  
90 Elgin, Ottawa, Ontario, K1A 0R5, Canada

Catalogue Number: BT22-183/2017E-PDF  
ISBN: 978-0-660-24007-7

This document is available on the Government of Canada website, [Canada.ca](https://Canada.ca)

This document is available in alternative formats upon request.

Aussi offert en français sous le titre : Plan stratégique du gouvernement du Canada pour la gestion de l'information et la technologie de l'information de 2017 à 2021.



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# Government of Canada Strategic Plan for Information Management and Information Technology 2017 to 2021

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From Treasury Board of Canada Secretariat

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## **About this document / what's new**

This is the first update to the Government of Canada Information Technology Strategic Plan, published in June 2016. This document provides insight into the digital direction being established by the Government of Canada (GC (Government of Canada)). This document can be considered as a directive.

This Strategic Plan sets the information management (IM (Information management)) and information technology (IT (Information technology)) direction for the GC (Government of Canada) and identifies enterprise-wide priorities and key activities for departments, <sup>1</sup> including those that provide services to other departments. It is a key input to the departmental IT (Information technology) planning process as an element of the prioritization framework used to identify overall IM (Information management)-IT (Information technology) investment and work priorities for the GC (Government of Canada). As part of this process, departments should use this document to internally prioritize IM (Information management)-IT (Information technology) investments and initiatives, and demonstrate alignment with enterprise direction.

For service provider departments such as Shared Services Canada (SSC (Shared Services Canada)) and Public Services and Procurement Canada (PSPC (Public Services and Procurement Canada)), this Strategic Plan identifies foundational priorities and activities that are required in order to modernize service delivery and improve sustainability. Completion of these initiatives will enable departments to partake in the enterprise approach while moving toward digital program and service delivery for Canadians.

This update addresses feedback provided through consultation with the public in summer and fall 2016 and with the GC (Government of Canada) Chief Information Officer (CIO (Chief Information Officer)) and Information Management Senior Official communities in February 2017. This plan:

- closes gaps identified through public consultation in the areas of accessibility, open source and procurement
- clarifies alignment with GC (Government of Canada) priorities and strategies
- clarifies areas that need improvement
- further develops the case for change

This plan addresses the key message from the GC (Government of Canada) IM (Information management)-IT (Information technology) community that IT (Information technology) supports IM (Information management), which must support the business.

This plan also brings together the foundational enablers of information, data, technology and security required to deliver open and transparent government and improved services to Canadians.

## Message from the Government of Canada Chief Information Officer

Digital capabilities continue to transform the way individuals and businesses work. In parallel, a data revolution is taking place that requires transformative action to support different forms of collaboration. The GC (Government of Canada) must adapt to meet demands and expectations from clients, stakeholders, partners and employees. This update to the Government of Canada Information Technology Strategic Plan (June 2016) is an interim step to a larger digital policy and strategy that is currently under development for the 2018 to 2019 fiscal year.



The GC (Government of Canada) delivers a broad range of programs and services to individuals and businesses in Canada and abroad. IM (Information management) and IT (Information technology) support the government in providing these programs and services.

Over the last few years, the GC (Government of Canada) has taken the first steps to shift toward an enterprise approach to managing information, data, technology and security. This direction supports priorities identified in recent budgets, ministers' mandate letters, reports and audits while responding to key drivers.

This plan creates a framework and sets direction for the GC (Government of Canada) to become an open and service-oriented organization that provides programs and services to citizens and businesses in simple, modern and effective ways that are optimized for digital and available anytime, anywhere and from any device.

Consistent with the GC (Government of Canada)'s first Strategic Plan, the following 4 strategic goals frame the direction for the GC (Government of Canada):

1. service
2. value
3. security
4. agility

Four strategic areas of action will achieve these goals over the next 4 years and beyond. Each area of focus, “service”, “manage”, “security” and “community”, details specific actions and activities that are currently underway or that represent new enterprise directions.

“Service” focuses on building and evolving IM (Information management)-IT (Information technology) foundational elements, including processes, practices and infrastructure, to enable implementation of current capabilities, technologies and solutions. Focusing on these elements will ultimately result in improved programs and services for Canadians and better internal services for government employees through development of a modern, reliable, interoperable and accessible IM (Information management)-IT (Information technology) environment that:

- allows for secure sharing of information and data
- improves the government’s ability to leverage opportunities across multiple channels

“Manage” addresses how the management and governance of IM (Information management)-IT (Information technology) across government ensure that IM (Information management)-IT (Information technology) investments take advantage of economies of scale, demonstrate value and are sustainable. This goal encompasses:

- a strengthened governance approach
- the evolution of IM (Information management)-IT (Information technology) management practices, process and tools
- a focus on innovation and sustainability

“Secure” focuses on safeguarding sensitive government data and ensuring that Canadians who access online services can trust the government with their personal information. Security involves:

- layered defences to reduce exposure to cyberthreats
- increased awareness and understanding to proactively manage such threats
- protective measures to enable the secure processing and sharing of data and information across government

As the shift to digital services increases and the sophistication and frequency of

cyberattacks grow, the GC (Government of Canada)'s defences must also evolve.

"Community" focuses on:

- building a high-performing IM (Information management)-IT (Information technology) workforce that has the skills and mindset needed to work effectively in an open digital environment
- ensuring that public service employees have a modern workplace, professional development and the IM (Information management)-IT (Information technology) tools they need to do their jobs

GC (Government of Canada) employees and the environment they work in are vital because the GC (Government of Canada)'s employees are its greatest asset in delivering the kind of government that Canadians want.

Progress toward achieving the 4 strategic goals outlined in this Strategic Plan will be tracked, evaluated and reported. As it evolves, the plan will require the government to make investment choices. The plan will be reviewed yearly to ensure it stays up to date and relevant, supported by an implementation roadmap to track and report on progress (see Appendix B). Departments, through their departmental IM (Information management)-IT (Information technology) plans, will detail how this enterprise approach will be implemented in their organizations.

With this Strategic Plan, the GC (Government of Canada) has set out a clear path to obtaining maximum benefit from the money it spends on IM (Information management)-IT (Information technology). Implementing this agenda is crucial to ensuring that the GC (Government of Canada) is ready and able to meet the needs and expectations of Canadians in the years ahead.

This plan represents the last instalment before we proceed to a broader agenda based on digital government adoption, supported by the right technologies.

Alex Benay  
Chief Information Officer  
Government of Canada

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## Introduction



Digital capabilities continue to transform the way individuals and businesses work. In parallel, a data revolution is taking place that requires transformative action to support different forms of collaboration. The GC (Government of Canada) must adapt to meet demands and expectations from clients, stakeholders, partners and employees. This update to the Government of Canada Information Technology Strategic Plan (June 2016) is an interim step to a larger digital policy and strategy that are currently under development for the 2018 to 2019 fiscal year.

The GC (Government of Canada) is made up of more than 100 organizations that deliver a broad range of programs and services to individuals and businesses in Canada and abroad. IM (Information management) and IT (Information technology) support the government in providing these programs and services.

In each GC (Government of Canada) department, IM (Information management)-IT (Information technology) is operated separately and focuses on fulfilling the individual mandate of the department. This siloed approach continues to lead to:

- inefficiencies through duplication of platforms
- incompatibility of systems and data models
- inconsistent service delivery and standards
- lack of information sharing
- inability to find information
- other factors

This approach has led to complex, time-consuming and costly client interactions with government.

Similarly, the IM (Information management) and IT (Information technology) workforces are managed separately and in silos, leading to:

- inconsistent and sometimes limited professional development
- greater outsourcing
- weak integration of roles and functions that fit closely together

A whole-of-government or “enterprise” approach is being taken to address some of these challenges through the creation of a common IM (Information management)-IT (Information technology) foundation as a first step. The responsibility for delivering IT (Information technology) services to core departments is now shared between central providers such as SSC (Shared Services Canada) and PSPC (Public Services and Procurement Canada). GC (Government of Canada) cybersecurity is the shared responsibility of SSC (Shared Services Canada), Communications Security Establishment Canada, and TBS (Treasury Board Secretariat), in partnership with departments. The

Treasury Board of Canada Secretariat's (TBS (Treasury Board Secretariat)'s) Chief Information Officer Branch (CIOB (Chief Information Officer Branch)) supports the Treasury Board by:

- developing strategy
- setting government-wide policy
- providing implementation guidance for IM (Information management)-IT (Information technology), service, access to information, privacy and security
- establishing technology standards for the GC (Government of Canada)

A number of priorities have been identified at the federal level through recent budgets and ministers' mandate letters, Destination 2020, reports and audits. This GC (Government of Canada) Strategic Plan for IM (Information management)-IT (Information technology) supports these priorities by setting a path for continued evolution to an enterprise approach. It also proposes to address additional IM (Information management)-IT (Information technology) challenges by responding to the following key drivers:

- citizens' expectations
- workplace and workforce evolution
- privacy and security
- the enterprise approach
- IM (Information management)-IT (Information technology) sustainability and aging IT (Information technology)

## **Citizens' expectations**

Citizens expect their government to be open, transparent and accountable. They also expect their government to deliver real and meaningful results fairly, efficiently and responsibly. Canadians want and deserve programs and services that provide the best experience for them, when and where they need it, and in a client-centred manner. This means that:

- services are simple and easy to access and use; services are essentially user centric
- data is shared and reused where appropriate
- interactions with government are consistent
- there are connections across jurisdictions (federal, provincial, territorial, municipal) where it makes sense
- services are digitally enabled and seamless

Citizens value government that is open with its data and other business information yet protects their privacy. Canadians accessing and using open information and data generates economic opportunities and increases trust and engagement in government activities.

Citizens want to be assured that departments are using the best available information and data from a variety of authoritative sources to make evidence-based decisions with respect to policies, programs and services that affect everyone. In addition, they want access to digital tools to better participate in policy and program development.

## **Workplace and workforce evolution**

Employees expect to have modern and effective tools that are interconnected, intuitive and accessible when and where they need them. The GC cannot properly serve Canadians if its public service has outdated tools. Clients and employees are supported by updated business processes to make day-to-day work efficient and add value to their efforts. They want to be part of a networked workforce and want an experience that is open, inclusive, nimble and optimized for digital. Employees in a modern workplace need digital tools that promote collaboration, information sharing and increased productivity, and that are accessible to and usable by people with disabilities.

## **Privacy and security**

Cybersecurity is an ever-evolving aspect of any IM (Information management)-IT (Information technology) strategy and plan. Consolidating systems prompts important opportunities but also leads to a greater “attack surface” that requires enhanced security measures to minimize risks. Inconsistent management of government networks and security profiles of government end-point devices (computer devices that connect to the Internet) also have the potential to increase the risk of cyberattack.

As the government moves to an “open by default” culture, it must continue to balance openness and transparency with the requirements for information and data privacy and security that Canadians have come to expect. Greater investment in cybersecurity is required to maintain these expectations.

## **The enterprise approach**

Sharing infrastructure and information, when appropriate, and using common IM (Information management)-IT (Information technology) solutions to meet common needs is one part of leveraging information and technology in an enterprise approach. Another aspect is addressing requirements for security, privacy, interoperability, accessibility and open information.

For Canadians, it is important to ensure a consistent end-user experience government-wide, regardless of geographical location. Issues of latency (delays in transmission), bandwidth, security, infrastructure, service levels and other considerations need to be taken into account in designing programs and services.

An enterprise approach also means that the size and complexity of IT (Information technology)-enabled projects are increasing as we move toward a more horizontal delivery model. Stronger prioritization and authoritative governance is needed to make enterprise decisions on IM (Information management)-IT (Information technology) investments. Such an approach will change projects where scalable and rapid deployment of IM (Information management)-IT (Information technology) business solutions to accommodate the size and complexity of various departments is needed. These solutions must also be adaptable to meet evolving business needs.

In support of the enterprise approach, a new GC (Government of Canada) Enterprise Architecture Review Board (EARB (Enterprise Architecture Review Board)) has been established to further the “whole of government as one enterprise” vision. It is integrated into the larger GC (Government of Canada) governance structure and looks at alignment of initiatives, system and solution gaps and overlaps, development of new digital capabilities and innovation opportunities, setting technology standards and providing IM (Information management)-IT (Information technology) investment direction.

## **IM (Information management)-IT (Information technology) sustainability and aging IT (Information technology)**

Information and data are growing exponentially, and it is increasingly challenging to find, use and share these assets. Modern and efficient IM (Information management) solutions ensure long-term access to information and data of business value. Such information and data must be preserved to minimize the risk of it becoming obsolete.

In order to maintain access to quality information and data, and to continue programs and services for Canadians, there is a continued need to renew the government’s aging and mission-critical IT (Information technology) infrastructure and systems that are at risk of breaking down. IT (Information technology) infrastructure transformation is proceeding slower than anticipated; the complexity of these initiatives has caused some delays and

procurement is taking longer than planned. Funding pressures are arising, in part, from stronger than forecasted growth in demand in digital government and from requirements to maintain existing IM (Information management)-IT (Information technology) environments longer than was anticipated. Chronic under-investment puts the government's ability to deliver some essential services to Canadians at risk. New mechanisms are being established to improve stability of existing systems and services such as use of cloud and other alternative service options to better balance infrastructure supply and demand. While progress has been made to rationalize applications, the GC still operates over 8700 applications. In addition, current system health indicators signal that more work is needed to address the risks associated with aging IT (Information technology). These factors make cloud adoption difficult.

Effectively addressing these expectations and challenges will require new ideas and approaches. Departmental CIOs and their departments will increasingly be working with peers in other jurisdictions (provincial and municipal), academia, and the private sector through existing and new forums such as the Public Sector Chief Information Officer Council, the Open Government Partnership, the Digital Advisory Board and their supporting sub-committees and working groups to collaborate, learn and work more strategically.

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## The vision

The GC (Government of Canada) is an open and service-oriented organization that delivers programs and services to citizens and businesses in simple, modern and effective ways that are optimized for digital and available anytime, anywhere and from any device. Digitally, the GC (Government of Canada) must operate as one to benefit all Canadians.

## Digital services

Information and data management, IT (Information technology) and cybersecurity are enablers for GC (Government of Canada) digital services and play critical roles in achieving this vision.

IM (Information management)-IT (Information technology) solutions are connected and interoperable, and facilitate:

- information and data sharing
- “big data” analytics

- collaboration
- an open-by-default approach
- user centric development
- adoption of open standards

These solutions enable the use of high-quality government data to inform decisions and identify innovative approaches to public policy. The use of enabling technologies such as cloud and social media offer additional ways to engage with Canadians and the world.

## Open and accessible

Information and data are available, accessible and proactively released to generate economic opportunities and increase trust and engagement in government activities.

GC (Government of Canada) digital services and internal tools are accessible and inclusive by design, reducing barriers for users with disabilities. Federal departments continue to seek out partnerships and work collaboratively with public and private sector organizations that are responsible for enhancing accessibility to advance mutual efforts in IM (Information management)-IT (Information technology) accessibility.

The principles of open by default and inclusive by design are integrated into all new processes, systems, solutions and services.

The GC (Government of Canada) takes advantage of the increasing number of opportunities to develop policies and solutions “in the open” and in collaboration with stakeholders.

## Security

Risks related to cybersecurity and aging IT (Information technology) have been reduced through the implementation of proactive measures to reduce the threat surface of Internet-connected networks and improved controls over access to government-held information. The completion of IT (Information technology) infrastructure transformation activities ensures that hardware, software and supporting processes are in place with funded renewal plans, ensuring long-term sustainability. These measures reassure Canadians and others who access GC (Government of Canada) digital services that they can trust the government with their personal and business information.

## Enterprise management

Project investments:

- address business problems and opportunities
- align strategically with the direction for the GC (Government of Canada)-wide enterprise architecture
- are effectively managed through best practices that are:
  - applied to project management and governance
  - gained from lessons learned from previous projects' concept-to-benefits realization

Achieving investment goals will be through reviewing investment concept cases early, prior to defining the solution or the project to implement the solution, allowing for early engagement and direction setting and for periodic reviews by the GC (Government of Canada) EARB (GC Enterprise Architecture Review Board). For high-risk project investments, TBS monitors and reports on performance and governance throughout the life of the project. Better management of project investments, coupled with an agile approach to developing and delivering projects and solutions, will maximize value and reduce service delivery costs, enabling the government to respond more rapidly to emerging issues.

## Community

Strong CIO (Chief Information Officer) leadership improves:

- recruitment
- development of the IM (Information management), IT (Information technology) and cybersecurity community
- retention of talent

The community is diverse, collaborative, agile and service-oriented in support of the shift to digital service delivery.

## Workplace

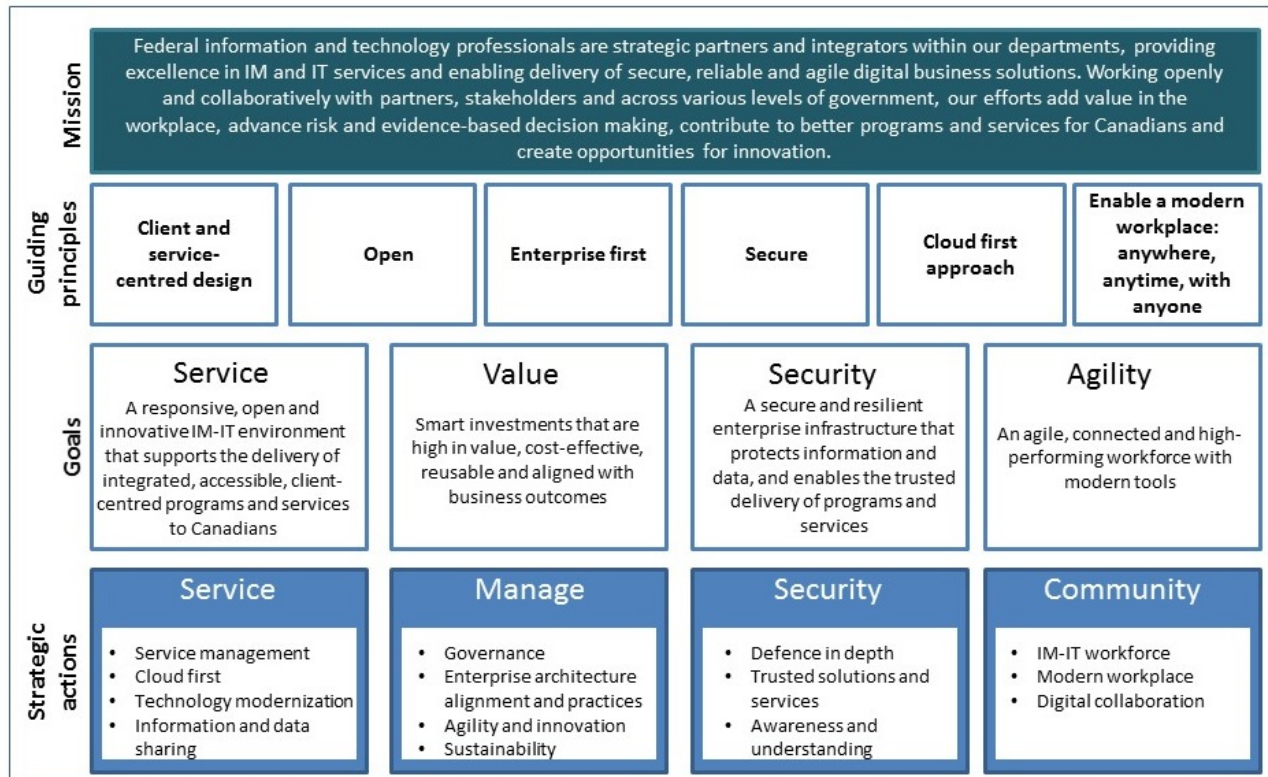
The federal public service is highly connected, with information, technology and security integrating seamlessly into daily work life. Efficient digital processes have rendered paper records obsolete. Public servants can easily find, use and share their documents. A common, customizable digital workspace follows public servants and allows them to work smarter and solve problems more effectively by providing secure, agile, accessible, and reliable systems and tools for information sharing, collaboration and innovation.

Information and data management practices are automated and made invisible as much as possible to the average public servant.

Much work is required to achieve a truly digital public service mindset where programs and services are designed for digital first, policy development approaches are open and innovative and Canadians are actively engaged.

Figure 1 outlines the framework for the Strategic Plan.

**Figure 1: framework for the GC Strategic Plan for IM-IT**



▼ Figure 1 - Text version

This framework describes the mission, guiding principles, goals and strategic actions that are laid out within the Government of Canada Strategic Plan for Information Management and Information Technology.

The mission statement is “Federal IT (Information technology) professionals are strategic partners and integrators within our departments, providing excellence in IM (Information management) and IT (Information technology) services and enabling delivery of secure, reliable accessible and agile digital business solutions. Working openly and collaboratively with external partners, stakeholders and across various levels of government, our efforts:

- add value in the workplace
- advance risk and evidence-based decision making
- contribute to better programs and services for Canadians
- create opportunities for innovation



There are six guiding principles:

1. client and service-centred design
2. open
3. enterprise first
4. secure
5. cloud first approach
6. enable a modern workplace: anywhere, anytime, with anyone

The four strategic goals along with the mission statement set the direction for the GC (Government of Canada) Strategic Plan for IM (Information management)-IT (Information technology).

### **Service**

A responsive, open and innovative IM (Information management)- IT (Information technology) environment supports the delivery of integrated, accessible, client-centred programs and services to Canadians

### **Value**

Smart investments are high in value, cost-effective, reusable, and aligned with business outcomes

### **Security**

A secure and resilient enterprise infrastructure protects information and data, and enables the trusted delivery of programs and services

### **Agility**

An agile, connected and high-performing workforce with modern tools

The strategic actions associated with the goals represent a range of activities, from core operating requirements to forward-looking and strategic initiatives. They are organized into categories based on themes.

### **Service includes**

service management; cloud first; technology modernization; and information and data sharing.

### **Manage includes**

governance; enterprise architecture alignment and practices; agility and innovation; and sustainability.

### **Security includes**

defence in depth; trusted solutions and services; and awareness and understanding.

**Community includes**

information management and information technology workforce; modern workplace; and digital collaboration.

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## Mission statement

Federal IM (Information management)-IT (Information technology) professionals are strategic partners and integrators within our departments, providing excellence in IM (Information management) and IT (Information technology) services and enabling delivery of secure, reliable, accessible and agile digital business solutions. Working openly and collaboratively with external partners, stakeholders and across various levels of government, our efforts:

- add value in the workplace
- advance risk and evidence-based decision making
- contribute to better programs and services for Canadians
- create opportunities for innovation

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## Guiding principles

### Principle 1: client and service-centred design

GC (Government of Canada) solutions and services are designed from a client-centred and end-to-end digital service delivery perspective to increase the value they bring to clients through:

- early user engagement
- convenient access and availability through multiple channels
- pre-population of information when possible and where appropriate
- simplified, streamlined and joined-up workflows
- reuse of information where appropriate
- rigorous user testing

## Principle 2: open

GC (Government of Canada) information and data is open by default, ensuring that:

- information and data are made open to the public to the greatest extent possible
- new processes are designed to enable and facilitate proactive release of government data and information by default
- the public actively participates in policy, program and service design
- citizens are consulted and engaged in government decisions and operations
- GC employees work “in the open”

## Principle 3: enterprise first

Departments will follow common standards, approaches and direction, and use existing enterprise assets, such as processes, data, contracts and solutions, as accelerators where:

- information is created once, reused numerous times, and managed GC (Government of Canada)-wide as a single-aligned asset that is consistent, standardized and interoperable
- solutions support the use of open standards, are scalable and can be rapidly deployed
- cost-effective and efficient business solutions facilitate information and data integration, reuse, management, sharing and analytics
- common business needs are addressed through enterprise or shared solutions, and departments stop investing in departmental legacy systems and refocus efforts, resources and funds on becoming ready to adopt an enterprise or shared solution and on accelerating its implementation
- efforts across the GC (Government of Canada) are more coherent, integrated, secure and effective

## Principle 4: secure

GC (Government of Canada) information is safeguarded for security, privacy and confidentiality, is monitored to prevent leaks, and is protected for future generations.

## Principle 5: cloud first approach

Departments will explore “... as a service” (XaaS (Anything as a Service)) cloud services before developing solutions in-house. This includes private and public cloud offerings.

## Principle 6: enable a modern workplace: anywhere, anytime with anyone

The GC (Government of Canada) strives to be an innovative organization that:

- provides its employees with modern technology that supports information retrieval, use, sharing and collaboration by making information and data accessible when and where needed
- provides customizable tools and resources with minimized learning requirements for users
- provides automated, digital processes in support of better services
- attracts, retains and encourages public servants to work smarter and be innovative, greener and healthier so that they better serve Canadians

Early thinking on new digital principles is in progress in support of the shift to digital (see [Appendix F](#)).

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## Strategic goals

The overarching strategic goals of **service**, **value**, **security** and **agility**, along with the IM (Information management)-IT (Information technology) mission statement, set the direction for the GC (Government of Canada) Strategic Plan for IM (Information management)-IT (Information technology). The GC (Government of Canada) is committed to:

- offering responsive and innovative IM (Information management)-IT (Information technology) services that meet business needs, enhance the end-user experience and enable digital service delivery
- making smart investments that ensure high-value and cost-effectiveness
- ensuring a secure, accessible and resilient enterprise infrastructure that enables the trusted delivery of programs and services
- providing a connected and high-performing workforce that uses modern tools

### Strategic goal 1: service

A responsive, open and innovative IM (Information management)-IT (Information technology) environment supports the delivery of integrated, accessible, client-centred programs and services to Canadians and:

- aligns architecture and plans to a “whole of government as one enterprise” vision

- simplifies IM (Information management) processes and systems to ensure that they are effective, support objectives for openness and relieve burden on GC (Government of Canada) workers
- continues the enterprise-wide approach to delivering IM (Information management) -IT (Information technology) services
- adopts emerging technology to improve program and service delivery such as artificial intelligence and blockchain

## **Strategic goal 2: value**

Smart investments are high in value, cost-effective, reusable, aligned with business outcomes, and:

- encourage collective use of resources, tools, processes and systems
- develop enterprise-wide solutions to address common business needs
- ensure sustainability of IM (Information management)-IT (Information technology) systems and infrastructure
- strengthen data governance and accountabilities
- adopt more agile procurement approaches, where possible

## **Strategic goal 3: security**

A secure and resilient enterprise infrastructure protects information and data, enables the trusted delivery of programs and services, and:

- enhances security measures to minimize risk
- provides more consistent management of government networks
- protects personal and sensitive information
- broadens awareness of cybersecurity risks

## **Strategic goal 4: agility**

An agile, connected and high-performing workforce with modern tools:

- attracts and retains highly skilled and diverse IM (Information management)-IT (Information technology) talent
- provides a technologically advanced workplace that supports mobility
- promotes digital literacy and collaboration
- pilots new practices, processes and solutions that exploit information as a strategic asset

- rethinks how data and information professionals can help meet current and future business needs

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## Strategic actions

The plan's strategic actions represent a range of activities, from core operating requirements to forward-looking and strategic initiatives. Those established in the inaugural GC (Government of Canada) IT (Information technology) Strategic Plan 2016 to 2020 maintained their original numbers (1 through 47) to simplify reporting. Numbering for new strategic actions begins at number 48. Some of these may require additional approvals or funding to be fully implemented. Priorities for the 2018 to 2019 fiscal year are key elements that enable the shift to digital service delivery (see Appendix A).

## Service

The strategic goal of “service” focuses on building and evolving IM (Information management)-IT (Information technology) foundational elements, including processes, practices and infrastructure to enable implementation of current capabilities, technologies and solutions such as blockchain and artificial intelligence. This approach will ultimately result in improved programs and services for Canadians and better internal services for government employees by focusing on developing a modern, reliable, interoperable and accessible IM (Information management)-IT (Information technology) environment that:

- allows for secure sharing of information and data via policy and possible legislative changes
- improves the government's ability to leverage opportunities across multiple channels
- adopts open standards, where applicable

While these foundational elements support all departments broadly, the science-based departments have additional requirements for network connectivity, specialized tools and a data strategy so that they can conduct research and collaborate with their partners and communities.

The sections below list the strategic actions that are currently underway and those that represent new enterprise directions that may require additional approvals or funding to be implemented.

## Actions underway

## **Service management**

1. Develop IT (Information technology) service portfolios and catalogues
2. Report on key areas of IT (Information technology) system health performance
48. Develop digital policy
49. Identify and prioritize SSC (Shared Services Canada) essential services
50. Establish SSC (Shared Services Canada) asset inventory and baseline

## **Cloud first**

7. Adopt cloud services
8. Establish a cloud service broker
9. Offer public cloud services
10. Offer private cloud services

## **Technology modernization**

4. Complete data centre consolidation and modernization
5. Complete telecom / network consolidation
6. Reassess government email consolidation

## **Information and data sharing**

11. Build a platform for enterprise interoperability
53. Develop an application programming interface (API) strategy
13. Introduce a government API store
54. Enhance online infrastructure to enable departments to release their data and information
14. Implement a platform for external collaboration
56. Implement GCDOCS
57. Migrate websites to Canada.ca and assess options for a single GC digital service platform

## **Planned actions**

### **Service management**

3. Implement enterprise IT (Information technology) service management tools

### **Information and data sharing**

51. Determine the feasibility of developing a “tell us once” approach for government
52. Introduce a strategy for use of open source software and open standards
12. Introduce a mobile application strategy and framework
55. Develop master data management program

## 15. Advance analytics

**Note:** Numbering of the strategic actions above corresponds with the strategic actions listed in Appendix B.

### **Service management**

The more open, transparent and integrated government programs and services become, the more they will depend on IM (Information management) and IT (Information technology) to deliver secure and reliable services that meet agreed-upon expectations.

#### **Develop IT (Information technology) service portfolios and catalogues (actions underway)**

An IT (Information technology) service portfolio describes services in terms of business value, including:

- a list of services
- a description of how they are bundled or packaged
- a description of the benefits they deliver

An IT (Information technology) service catalogue is a list of available technology resources and offerings within an organization. It is a tactical, operational tool that is intended to make it easier for clients to request IT (Information technology) services on a day-to-day basis.

SSC (Shared Services Canada) and PSPC (Public Services and Procurement Canada) will develop IT (Information technology) service portfolios and service catalogues that clearly articulate enterprise service expectations for the services they provide, including:

- service descriptions
- ordering and provisioning processes
- roles and responsibilities
- service targets
- associated reporting commitments
- pricing (if applicable)

SSC (Shared Services Canada) and PSPC (Public Services and Procurement Canada) will price their services to facilitate the introduction of:

- chargeback models
- price comparisons of external service providers
- the adoption of cloud services



With respect to IT (Information technology) security, SSC (Shared Services Canada) will establish expectations and provide the necessary information to partners for the IT (Information technology) infrastructure that it manages through the service dashboards.

### **Report on key areas of IT (Information technology) system health performance (actions underway)**

Key performance indicators that focus on operational excellence and delivery are critical tools in managing the delivery of IM (Information management)-IT (Information technology) services. Departments will put in place metrics for monitoring client satisfaction and key areas of IT (Information technology) system performance (security, availability, reliability and capacity).

For the services they provide, SSC (Shared Services Canada) and PSPC (Public Services and Procurement Canada) will:

- set enterprise-wide service levels in collaboration with departments
- report to departments on performance based on these service levels
- engage their clients to resolve issues if service levels fall below targets

SSC (Shared Services Canada) will also report on a quarterly basis to the Deputy Minister and Assistant Deputy Minister Committees on Enterprise Priorities and Planning (CEPP (Committees on Enterprise Priorities and Planning)) on key performance indicators.

### **Implement enterprise IT (Information technology) service management tools (planned actions)**

IT (Information technology) service management (ITSM (IT service management)) refers to an organization's planning, delivery, operations and control of IT (Information technology) services offered to clients. Departments traditionally have implemented their own ITSM (IT service management) tools. Such tools are expensive to implement and maintain, and the diversity of tools affects overall ITSM (IT service management) efficiencies. Moreover, service request and trouble tickets do not flow easily within and between departments and tool sets.

SSC (Shared Services Canada) will put in place enterprise ITSM (IT service management) tools and make them available to all departments. Doing so will bring consistency to the practice of ITSM (IT service management) and, more importantly, reduce the cost and delays of fulfilling service requests.

### **Develop digital policy (actions underway)**

In order to remain relevant in the digital era, the GC (Government of Canada) must move away from its traditional siloed and complex web of rules. Citizens today have high expectations of government. These expectations are driven by their interactions with a more digitally sophisticated private sector. Government IT (Information technology) policies have not kept pace with this evolving landscape and do not reflect current realities or future strategic direction.

TBS (Treasury Board Secretariat) will develop a new digital policy that focuses on service to Canadians within an open and transparent environment that is enabled by information, data, technology and cybersecurity to ensure that a strong foundation can be leveraged to achieve business outcomes across government and support innovation.

### **Identify and prioritize SSC (Shared Services Canada) essential services (actions underway)**

As stated in the Federal Public Sector Labour Relations Act, the GC (Government of Canada) determines whether “any service, facility or activity of the Government of Canada is essential because it is or will be necessary for the safety or security of the public or a segment of the public.” TBS (Treasury Board Secretariat), with SSC (Shared Services Canada) and the GC (Government of Canada)’s new Digital Advisory Board, will establish a list of SSC (Shared Services Canada) essential services and identify top priorities. Consistent with IM (Information management)-IT (Information technology) governance, this list will be approved by CEPP (Committees on Enterprise Priorities and Planning).

### **Establish SSC (Shared Services Canada) asset inventory and baseline (actions underway)**

SSC (Shared Services Canada) will create an inventory of assets within 2 years. The inventory will establish a baseline that can be used to inform prioritization discussions at CEPP (Committees on Enterprise Priorities and Planning) and ensure that work is focused in the most important areas such as evergreening and managing organic growth.

## **Cloud first**

Cloud computing, or on-demand computing, introduces a fundamental shift in providing IT (Information technology) services. It provides access to shared IT (Information technology) resources (networks, servers, storage, applications and services) through “pay for use” models, similar to those used for traditional utilities such as water and electricity.

Cloud is best positioned to satisfy the substantial need for agility and scalability of today’s unpredictable business environments, and to improve the balance of supply and demand of infrastructure. Cloud adoption will ensure that the GC (Government of Canada) can maintain IT (Information technology) service excellence during a period of increasing

demand for online services, and provide timely access to accurate information to Canadians. Cloud supports the GC (Government of Canada)'s digital and innovation agendas.

In the context of cloud and enterprise-wide and shared solutions, departments have a duty to apply safeguards that will enable them to retain uncompromised control over information they have collected or created.

### **Adopt cloud services (actions underway)**

TBS (Treasury Board Secretariat) has published the Government of Canada Cloud Adoption Strategy to guide the cost-effective and secure adoption of cloud services. Departments will choose cloud services from a number of options that will include extensions to existing legacy solutions and private and public cloud offerings. TBS (Treasury Board Secretariat) published right cloud selection guidance to assist departments in making these choices. They will need to consider:

- privacy
- security
- compliance
- data residency and sovereignty
- vendor lock-in considerations
- commercial risk
- latency and performance
- data transfer
- integration

Departments will consider solutions that employ software as a service (SaaS (Software as a Service)) before platform as a service (PaaS (Platform as a Service)) and infrastructure as a service (IaaS (Infrastructure as a Service)).

To ensure Canada's sovereign control over its data, departments will adopt the policy that all sensitive data under government control, that has been categorized at Protected B, Protected C, or is Classified, will be stored in a GC (Government of Canada)-approved computing facility located within the geographic boundaries of Canada or within the premises of a GC (Government of Canada) department located abroad, such as a diplomatic or consular missions. Departments and agencies will evaluate risks based on an assessment of data sensitivity and apply the appropriate security controls for cloud services. Examples of sensitive data include personally identifiable information or program/business information.

### **Establish a cloud service broker (actions underway)**

A cloud service broker (CSB (cloud service broker)) functions as a bridge between organizations and cloud providers. Using a CSB (cloud service broker) makes cloud services less expensive, easier, safer and more productive for organizations to navigate, integrate, consume and extend cloud services, particularly when services span multiple and diverse providers.

A CSB (cloud service broker)'s key functions are as follows:

- procurement
- billing
- security accreditation
- networking
- credential and identity federation
- application integration
- customer support
- vendor service-level agreements (pertaining to management and skills)

SSC (Shared Services Canada) is responsible for providing a CSB (cloud service broker) quickly by implementing contracts with cloud service providers, thereby enabling departments to use a self-service model for providing cloud resources (computing power, storage and platforms). SSC (Shared Services Canada) will be responsible for connecting the cloud environments as extensions of end-state data centres, with a catalogue of cloud resources pre-configured to the GC (Government of Canada)'s standards. All cloud projects will be reviewed and approved by GC (Government of Canada) EARB (Enterprise Architecture Review Board).

PSPC (Public Services and Procurement Canada) is also responsible for implementing additional contracts for services and must use the same demand intake process as SSC (Shared Services Canada). PSPC (Public Services and Procurement Canada) will work closely with SSC (Shared Services Canada) to leverage its suite of cloud broker functions and infrastructure capabilities.

### **Offer public cloud services (actions underway)**

A public cloud refers to a cloud environment shared by multiple tenants that are isolated from each other. SSC (Shared Services Canada) will direct its efforts toward acquiring and brokering multiple enterprise-grade public cloud services. Several of these will have a presence in Canada and be capable of storing and processing protected data. Public cloud services will be the priority choice for departments when choosing a cloud deployment model.

### **Offer private cloud services (actions underway)**

A private cloud has all of the self-service and dynamic attributes of a public cloud except that the services are for use by a single enterprise, in this case the GC (Government of Canada). Under this deployment model, the GC (Government of Canada) will be the only tenant residing in the cloud. This model includes off-premise as well as on-premise clouds that are managed by the GC (Government of Canada) or by a third party.

Private clouds can be implemented as pre-engineered commercial offerings or as tailored solutions that are engineered and assembled by staff. SSC (Shared Services Canada) will direct its efforts toward acquiring the former, with the latter being implemented when unique requirements arise. Departments will use private clouds where needs cannot be met by public clouds (e.g. secret information).

## **Technology modernization**

A technology infrastructure that is modern, sustainable, reliable and robust enables horizontal digital service delivery, collaboration and information sharing within the federal government and with citizens, external business, stakeholders and partners. It is a critical component that enables the GC (Government of Canada)'s shift to being client-centred and service-centred, with open programs and services.

### **Complete data centre consolidation and modernization (actions underway)**

The GC (Government of Canada) operates over 500 aging data centres that support mission-critical and non-mission-critical business functions. Consolidating these data centres into fewer modern and secure data centre services is the most cost-effective way to address the government's "rust out" issue. These enterprise data centres will be designed to have backup and retention capability as part of disaster recovery plans and in support of business continuity.

SSC (Shared Services Canada) will enable the migration of departmental legacy applications to segregated partner-specific locations (called enclaves) within the new enterprise data centres. This migration will:

- accelerate the closure of aging data centres
- enhance data security
- minimize the financial and business impact to departments

To ease the demand for data centre capacity, departments will reduce the number of back office applications to be migrated. The extent to which the government leverages external cloud service providers could also reduce the requirement for data centre capacity.

Successfully consolidating data centres depends on departments' readiness to prepare their applications for migration within prescribed time frames. Departments will work with SSC (Shared Services Canada) and other government and external partners to ensure that:

- mission-critical and other applications are in appropriate environments
- such applications are supported with appropriate technologies and procedures to ensure their availability

### **Complete telecom/network consolidation (actions underway)**

To streamline and modernize the government's network infrastructure and services, SSC (Shared Services Canada) will eliminate unused phone lines and migrate departments from outdated and costly legacy phone systems to wireless devices and VoIP (voice over Internet protocol) service.

SSC (Shared Services Canada) will also work with departments to:

- consolidate the 50 existing SSC (Shared Services Canada) partner wide-area networks into a single enterprise network
- establish shared network infrastructure in office buildings that house multiple departments
- secure and reduce the number of connections to the Internet

### **Reassess government email consolidation (actions underway)**

Departments have traditionally operated their own email systems, leading to business and cost inefficiencies. SSC (Shared Services Canada), as the service provider, and TBS (Treasury Board Secretariat), as the enterprise business owner, will develop a strategy for next-generation email services for the GC (Government of Canada).

### **Information and data sharing**

Interoperable platforms are the backbone of data and information sharing, big data analytics and collaboration. By seizing on these opportunities, government can create a modern workplace in which employees have the enabling tools needed to keep pace with the expectations of the Canadians and businesses they serve.

### **Determine the feasibility of developing a “tell us once” approach for government (planned actions)**

TBS (Treasury Board Secretariat) will investigate the “tell us once” approach for the GC (Government of Canada) from various perspectives to understand possible risks and challenges including: security, privacy, IM (Information management) and IT (Information technology).

### **Build a platform for enterprise interoperability (actions underway)**

TBS (Treasury Board Secretariat) will continue to work with stakeholders to develop a unified service approach and to create a set of modern integration tools called the GC (Government of Canada) Interoperability Platform (GCIP (GC Interoperability Platform)). This platform acts as an information broker, enabling the exchange of data and information between enterprise systems, departments and governments.

The GCIP (GC Interoperability Platform) project will implement a central data exchange where information can be shared securely and reliably between government applications. Three core solutions for financial management, human resource management and information management will be connected to seamlessly exchange information, regardless of the technologies underpinning them. These systems operate on a “tell us once” principle, where data is entered in one system and then reused by multiple other systems, as legislation and policy permit, thus reducing the need for duplicate data entry while improving data integrity and accuracy.

This work will lay the foundation to link internal departmental information with solutions for delivering programs and services and enable greater GC-wide collaboration when designing digital services.

TBS (Treasury Board Secretariat) will continue to lead the adoption of a common GCIP (GC Interoperability Platform) to support information sharing inside and outside the GC (Government of Canada) domain. This approach will enable business process improvement within the government and across jurisdictions, leading to improved program and service delivery for citizens and businesses.

Through the creation and use of a governance framework (policies, directives, guidelines and open standards) for the GCIP (GC Interoperability Platform), TBS (Treasury Board Secretariat) will:

- foster openness and collaboration
- promote digital services
- advance enterprise interoperability and information sharing across the government

### **Introduce a strategy for use of open source software and open standards (planned actions)**

The use of open source software supports interoperability and information sharing and should be considered in the assessment of IM (Information management)-IT (Information technology) solutions. Open source products are publicly available, and the availability of their source code promotes open and collaborative development around their specifications, making them more robust and interoperable. The use of open standards ensures interoperability between products and systems, and maintains flexibility within the IM (Information management)-IT (Information technology) environment. TBS (Treasury Board Secretariat) will lead the development of a strategy to set direction for the government on the use and release of open source software and open standards that will be ratified by GC (Government of Canada) EARB (Enterprise Architecture Review Board).

### **Introduce a mobile application strategy and framework (planned actions)**

Canadians and business want to use mobile applications to interact with government data and obtain government services. As part of the overall web strategy, TBS (Treasury Board Secretariat) will lead the development of a strategy and framework for the development and management of mobile applications that are easy to use and trusted that will be validated through GC (Government of Canada) EARB (Enterprise Architecture Review Board). GC (Government of Canada) mobile applications will be identified on Canada.ca and available through application stores.

### **Develop an application programming interface strategy (actions underway)**

APIs (Application programming interfaces) are used to reveal GC (Government of Canada) digital capabilities and can be combined and reused to create digital services. APIs (Application programming interfaces) are increasingly becoming the way to facilitate sharing of government data and information and, as such, are foundational building blocks that support the GC (Government of Canada)'s commitment to digital services. TBS (Treasury Board Secretariat) will develop an API strategy for the GC (Government of Canada).

### **Introduce a government API store (actions underway)**

TBS (Treasury Board Secretariat) will lead the creation of an API store to support information sharing with Canadians, business and other entities external to government. Departments have already made available a number of APIs (Application programming interfaces). The GC (Government of Canada) API store will offer a consistent means to discovering APIs (Application programming interfaces) and subscribing to them. The store will provide API publishers and users with a central, multi-tenant API management platform that includes:

- a searchable catalogue



- version control
- automated access provisioning workflows

Operating under a self-service model, API publishers will be allowed to sign up and benefit from “active documentation” that allows them to drill into API definitions, try APIs (Application programming interfaces) and share their feedback in the store’s forum.

Interoperability, mobile applications and APIs (Application programming interfaces) are key elements to supporting digital services for the GC (Government of Canada).

### **Enhance online infrastructure to enable departments to release their data and information (actions underway)**

Having reliable infrastructure in place to ensure the maximum release of government data and information ultimately results in:

- a platform for Canadians that enables access to open government data and information
- the opportunity to meaningfully engage on related issues

The long-term goals of these activities are to deliver value to Canadians through open information and data that:

- fosters greater citizen participation in government
- promotes innovation
- creates economic opportunities

Canada’s Open Data Exchange (ODX (Open Data Exchange)) is an organization that helps Canadian companies make use of open data. TBS (Treasury Board Secretariat) will work with the ODX (Open Data Exchange) to deepen insight into the commercial open data landscape and to understand what challenges need to be overcome in order to make Canadian open data companies more competitive.

### **Develop a master data management program (planned actions)**

In an open and distributed operational environment such as the GC (Government of Canada), there is a risk that business-critical data becomes redundant, inconsistent and scattered throughout the enterprise.

Master data management (MDM (master data management)) can be defined as the processes, governance, tools, rules and technology required to create and maintain consistent and accurate master data. It focuses on common critical data elements and establishes strong governance around them. MDM (master data management) can eliminate redundancy and inconsistency of data in an organization and ensure its quality

and control. It can provide a single, authoritative point of reference that can be shared by many processes and applications across the organization. It can also streamline data sharing and facilitate interoperability.

TBS (Treasury Board Secretariat) will work with key business owners (for example, the Office of the Comptroller General and the Office of the Chief Human Resources Officer) to establish a government-wide MDM (master data management) program to formally identify standard data elements and single authoritative sources for key information domains, where appropriate.

### **Advance analytics (planned actions)**

Business intelligence involves creating, aggregating, analyzing and visualizing data to inform and facilitate business management and strategy. Analytics is about asking questions and refers to all the ways in which data can be broken down, compared and examined for trends. Big data is the technology that stores and processes data and information in datasets that are so large or complex that traditional data processing applications can't analyze them. Big data can make available almost limitless amounts of information, improving data-driven decision making and expanding open data initiatives.

TBS (Treasury Board Secretariat), working with departments, will lead the development of requirements for an enterprise analytics platform.

TBS (Treasury Board Secretariat) will work with departments to identify a business lead to develop a data lake (a repository of raw data) service strategy so that the GC (Government of Canada) can take advantage of big data and market innovation to foster better analytics and promote horizontal data sharing.

### **Implement a platform for external collaboration (actions underway)**

Technology makes it easier for citizens, academia, scientists, businesses and government to share ideas and information and to collaborate with one another. TBS (Treasury Board Secretariat) will lead the establishment of an external collaboration service provider to host departments and provide them with a dedicated workspace and computing storage for unclassified and transitory data. Cloud pilot projects will test-drive requirements and determine the most suitable platform to meet government business, information and security needs.

TBS (Treasury Board Secretariat), in collaboration with departments, including PSPC (Public Services and Procurement Canada) and SSC (Shared Services Canada), provides departments with a secure platform called GCCollab to:

- share opinions, information and analyses

- collaborate with external partners, academia, businesses, other governments and citizens

While meeting the government's requirements for security classification, disposition and recordkeeping, the platform will support an array of functions such as document sharing, co-authoring, assigning tasks, organizing meetings and holding discussions.

### **Implement GCDOCS (actions underway)**

Time and productivity are frequently lost due to the lack of consistent tools and systems to help employees store, search and find the information and data they need to do their jobs. Enterprise IM (Information management) solutions such as GCDOCS streamline and simplify these processes, but they need to be configured properly to make back-end IM (Information management) processes as invisible as possible to users.

Automation can provide opportunities to:

- simplify and streamline key IM (Information management) processes and practices
- deliver a seamless user experience that relieves burden on individual GC (Government of Canada) workers

Furthermore, implementing integrated and standardized solutions across departments can help make it easier for GC (Government of Canada) employees to find, use and share the information and data they need to do their job, while ensuring consistent, foundational management of GC (Government of Canada) information assets. Information and data can be leveraged to help departments achieve their business objectives and meet their mandated requirements.

TBS (Treasury Board Secretariat) and PSPC (Public Services and Procurement Canada) will enhance the government-wide GCDOCS service for departments, including:

- full deployment by 2022
- broadening its integration with back office systems
- piloting its use as a tool for increasing the openness of government information

### **Migrate websites to Canada.ca and assess options for a single GC digital service platform (actions underway)**

The GC (Government of Canada)'s Web Renewal Initiative will improve Canadians' access to GC (Government of Canada) online services through a single online window (Canada.ca). This initiative will bring hundreds of existing sites into one, designed to better meet the needs of Canadians. TBS (Treasury Board Secretariat) will develop a new

strategy to set further direction on providing a single window to Canadians for all GC (Government of Canada) information and services and create the conditions required to transition to a single GC service platform.

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## Manage

The strategic goal of “manage” addresses the management and governance of IM (Information management)-IT (Information technology) across government in a way that ensures that IM (Information management)-IT (Information technology) investments:

- take advantage of economies of scale
- demonstrate value
- are sustainable

Strengthening the role of departmental CIOs and enhancing the role of the GC (Government of Canada) CIO (Chief Information Officer):

- move to a digital GC culture
- will further develop business and IM (Information management)-IT (Information technology) partnerships
- enable stronger IM (Information management)-IT (Information technology) direction setting
- influence community management

The sections below list the strategic actions that are currently underway and those that represent new enterprise directions that may require additional approvals or funding in order to be implemented.

## Actions underway

### Governance

27. Establish enterprise IM (Information management)-IT (Information technology) governance

28. Develop methods to prioritize investments in legacy and transformation initiatives

### Enterprise architecture alignment and practices

30. Evolve IT (Information technology) management practices, processes and tools

31. Develop enterprise architectures for business, information, applications and technology

32. Adopt agile approaches to implementing business solutions

## **Agility and innovation**

- 65. Establish a Digital Advisory Board
- 66. Introduce digital government principles
- 67. Advance financial management transformation

## **Planned actions**

### **Governance**

- 29. Document roles and responsibilities for IT (Information technology) and IT (Information technology) security
- 58. Introduce stronger project oversight at the concept phase
- 59. Establish data governance

### **Enterprise architecture alignment and practices**

- 60. Standardize metadata
- 61. Develop information and data valuation framework
- 62. Develop an information management performance framework

## **Agility and innovation**

- 33. Lead innovation
- 34. Adopt modern and flexible business models
- 63. Provide tools and resources to make innovative use of information and data
- 64. Shift culture and processes toward open by design

## **Sustainability**

- 35. Ensure IT (Information technology) infrastructure sustainability
- 36. Rationalize investments
- 68. Develop process to balance infrastructure supply and demand

**Note:** Numbering of the strategic actions above corresponds with the strategic actions listed in [Appendix B](#).

## **Governance**

To fully embrace an enterprise approach, departments need clear direction on agreed-upon priorities and approved approaches that come from an authoritative source. Strong oversight is required to ensure sustained progress in advancing shared objectives. Roles and responsibilities must be documented for effective implementation of an [IM \(Information management\)-IT \(Information technology\) governance structure](#).

## **Establish enterprise IM (Information management)-IT (Information technology) governance (actions underway)**

Adopting an enterprise approach requires sound governance structures that support clear and informed decision making. The Deputy Minister and Assistant Deputy Minister Committees on Enterprise Priorities and Planning (CEPP (Committees on Enterprise Priorities and Planning)) will be the governance, priority setting and oversight bodies for all GC (Government of Canada) IM (Information management)-IT (Information technology) investments. CEPP (Committees on Enterprise Priorities and Planning) will also provide oversight on SSC (Shared Services Canada) service delivery.

CEPP (Committees on Enterprise Priorities and Planning) will encourage departments to move toward enterprise solutions for consolidated services. CEPP (Committees on Enterprise Priorities and Planning) will establish the “rules of engagement” for adopting enterprise IM (Information management)-IT (Information technology) solutions and services, including the process for addressing exceptions. As such, CEPP (Committees on Enterprise Priorities and Planning) will prioritize all plans for enterprise services.

CEPP (Committees on Enterprise Priorities and Planning) will manage demand from departments for SSC (Shared Services Canada) IT (Information technology) infrastructure services and guide how SSC (Shared Services Canada) provides those supply-side services. SSC (Shared Services Canada) will report to CEPP (Committees on Enterprise Priorities and Planning) on its progress with transformation efforts and bring forward annually an investment plan for endorsement in advance of seeking Treasury Board approval.

Through principles, prioritization and a risk-based approach to balancing demand and supply, CEPP (Committees on Enterprise Priorities and Planning) will align IT (Information technology) and IT (Information technology)-enabled initiatives with enterprise business priorities.

In addition, CEPP (Committees on Enterprise Priorities and Planning) will provide direction for and oversee the implementation of the GC (Government of Canada) Strategic Plan for IM (Information management)-IT (Information technology) that will be published annually in October. The Strategic Plan outlines GC (Government of Canada) IM (Information management)-IT (Information technology) priorities and serves as the basis for SSC (Shared Services Canada)’s planning. CEPP (Committees on Enterprise Priorities and Planning)’s Terms of Reference, including mandates, authorities and accountabilities, are being reviewed accordingly.

All the business needs of government will be managed according to IM (Information management)-IT (Information technology) governance principles. Under CEPP (Committees on Enterprise Priorities and Planning) leadership, TBS (Treasury Board Secretariat) will:

- clearly define the key roles of business owner, service provider and client
- clarify with the CIO (Chief Information Officer) Council and the Enterprise Architecture Review Board how existing governance structures will be integrated into the IM (Information management)-IT (Information technology) governance structure
- determine an appropriate decision-making process
- see that departments avoid duplication and unnecessary overlap

### **Develop methods to prioritize investments in legacy and transformation initiatives (actions underway)**

SSC (Shared Services Canada) and PSPC (Public Services and Procurement Canada) will develop and define methods to measure the progress of transformation initiatives, aligning them with key benefits. Progress must be reported clearly and reliably.

TBS (Treasury Board Secretariat), supported by SSC (Shared Services Canada) and other departments, and under CEPP (Committees on Enterprise Priorities and Planning)'s oversight and direction, will develop a methodology to prioritize and allocate funding for investments in legacy and transformation initiatives. SSC (Shared Services Canada) will also develop a clear process to address funding and capacity deficiencies. Methodologies and processes will be refined periodically to ensure accurate determination and reporting of savings. These processes will be integrated into enterprise planning initiatives.

CEPP (Committees on Enterprise Priorities and Planning) endorses a principles-based approach and prioritization methodology to guide departmental investment strategies, ensuring that they reflect business and enterprise priorities. New or significant changes to IM (Information management)-IT (Information technology) and IT (Information technology)-enabled projects will be subject to consultation with TBS (Treasury Board Secretariat) and approval by CEPP (Committees on Enterprise Priorities and Planning).

As the GC (Government of Canada) shifts to a digital policy and strategy, its enterprise IM (Information management)-IT (Information technology) governance, planning, prioritization and project management processes will evolve.

### **Document roles and responsibilities for IT (Information technology) and IT (Information technology) security (planned actions)**

Departments have a role in managing and delivering IT (Information technology), as described in Appendix D. TBS (Treasury Board Secretariat) will work to elaborate and document the roles and responsibilities of departments, SSC (Shared Services Canada), PSPC (Public Services and Procurement Canada) and central agencies for delivering IT (Information technology) services and implementing the government's IM (Information management)-IT (Information technology) Strategic Plan so that roles and responsibilities are clearly defined, communicated and executed. They will be clarified through the revised policies on government security, IM (Information management) and IT (Information technology). TBS (Treasury Board Secretariat) will also continue to provide clear direction to departments on IT (Information technology) security roles and responsibilities, including security-control objectives and other security-related requirements.

### **Introduce stronger project oversight at the concept phase (planned actions)**

TBS will enhance and strengthen the oversight function for IT (Information technology)-enabled projects by introducing earlier reviews of investment concept cases. Such reviews will take place prior to defining the solution or the project to implement the solution, allowing for early engagement and setting of direction. Concept cases will also be reviewed and assessed by the GC (Government of Canada) EARB (Enterprise Architecture Review Board) for alignment with the GC (Government of Canada) business capability model.

For high-risk project investments, TBS will monitor and report on performance and governance throughout the life of the project. Better management of project investments, coupled with an agile approach to development and delivery, maximizes value and reduces service delivery costs, enabling the government to respond more rapidly to emerging issues.

### **Establish data governance (planned actions)**

The GC (Government of Canada) is committed to making better use of data to inform decision making. To do so, the GC (Government of Canada) must ensure that the maximum value possible can be extracted from the large quantities of data that departments collect in support of providing their individual programs and services. Currently, data is fragmented and stored in departmental or program silos, with minimal infrastructure in place to support sharing among stakeholders and to effectively manage the data across its lifetime.

Many departments collect and use similar or related data, but no coherent government-wide approach to managing data is in place for providing services that stretch across departments and jurisdictions. Ownership for individual datasets is often not clear, and business development processes do not sufficiently consider other potential uses of data



collected. In order to ensure informed decision making based on enterprise-wide data, the government needs to take steps to ensure the sound governance of data and its integrity and quality.

TBS (Treasury Board Secretariat) will work with data creators and user communities to define governance principles that assign formal accountabilities for individual data assets.

## **Enterprise architecture alignment and practices**

Sound IM (Information management)-IT (Information technology) management starts with consistent planning based on documented descriptions of the enterprise. With an understanding of what is in play, managers can adopt solutions that best address their business needs while advancing government-wide architecture.

### **Evolve IT (Information technology) management practices, processes and tools (actions underway)**

CIOs should plan and execute departmental IT (Information technology) plans so that they align with the GC (Government of Canada)'s Strategic Plan for IM (Information management)-IT (Information technology) and overall enterprise modernization priorities. Important tools to support CIOs include:

- investment plans
- architectural reviews
- application portfolio management
- expenditure reporting
- performance reporting

Optimizing IM (Information management)-IT (Information technology) investments to meet business outcomes will propel the evolution of IM (Information management)-IT (Information technology) management processes and tools. TBS (Treasury Board Secretariat) policy and guidance will allow departments to:

- manage IM (Information management)-IT (Information technology) consistently and with greater maturity
- better understand IM (Information management)-IT (Information technology) at the enterprise level
- evolve digital service delivery
- benchmark themselves against similar departments
- monitor and track progress against government priorities
- set future priorities

TBS (Treasury Board Secretariat) will also provide policy guidance and more robust

project oversight to help departments:

- develop sound project cost estimates
- implement good project management practices for complex IM (Information management)-IT (Information technology) projects
- guide investments from concept to benefits realization

### **Develop enterprise architectures for business, information, application and technology (actions underway)**

Enterprise architecture will be used to provide all GC (Government of Canada) departments with a structured approach to identify and describe GC (Government of Canada) business needs and the information, applications and technology that are required to enable them.

Enterprise architectures show:

- the capabilities and services being provided to Canadians
- the information that supports each GC (Government of Canada) service
- the people impacted by business decisions
- the secure enabling applications and technologies for each GC (Government of Canada) service

Understanding enterprise architecture enables effective decision making about IM (Information management)-IT (Information technology) investments, costs and risks, allowing the GC (Government of Canada) to act as one to optimize performance and deliver on government priorities in the digital era.

Working with functional communities, TBS (Treasury Board Secretariat) will lead the development of an enterprise architecture framework, including an GC (Government of Canada) EARB (Enterprise Architecture Review Board) that is integrated with IM (Information management)-IT (Information technology) governance. The GC (Government of Canada) EARB (Enterprise Architecture Review Board), with representation of business and technology stakeholders from across the GC (Government of Canada), will work collaboratively to simplify the GC (Government of Canada) IM (Information management)-IT (Information technology) environment by:

- assessing alignment of initiatives
- identifying opportunities for reusing solutions that support similar needs
- developing new digital capabilities and innovation opportunities
- setting standards for GC (Government of Canada) technology
- providing direction on IM (Information management)-IT (Information technology) investment

## **Adopt agile approaches to implementing business solutions (actions underway)**

It is a challenge to be able to acquire goods and services in a timely manner to operationalize government mandates that provide value to citizens. TBS (Treasury Board Secretariat) and PSPC (Public Services and Procurement Canada) are leading a government-wide initiative to identify and support key improvements in the federal procurement regime.

Departments will take advantage of existing multi-departmental contracts when investing in solutions to meet common needs. In cases where multi-departmental contracts or tools do not meet business requirements, departments will contact TBS (Treasury Board Secretariat) to discuss other options. Departments are required to keep TBS (Treasury Board Secretariat) up to date on their investments and plans.

Where a customized or in-house solution is the only option, application development teams should take modern and agile approaches to achieve greater speed and agility. They must also take into account the increasingly complex ecosystem of interdependent software architecture, infrastructure and processes.

Departments will promote a learning culture that allows solutions architects and developers to:

- understand and adopt iterative development approaches, automate release schedules and embrace a layered testing strategy, including automated testing
- increase engagement with business colleagues to advance iterative approaches
- engage functional (IM (Information management)) experts early in the development process
- adopt an approach that considers a service-oriented architecture and application programming interface (API) first rather than large and complex constructs

## **Standardize metadata (planned actions)**

Metadata is the backbone of digital automated processes, information retrieval, and the use and sharing of information and data. Metadata defines and describes the structure and meaning of information and data and of the context and systems in which they exist. Metadata supports efficient and effective management of information and data resources over time, which facilitates decision making, accountability and the efficient delivery of government programs and services.

Standardized metadata supports:

- interoperability within and across systems
- reuse of information resources within, across and outside the GC (Government of Canada)

Along with standardized metadata, consistent use of authoritative vocabularies supports the exchange of information and data resources within and across systems.

Automated metadata collection, creation, use and reuse can greatly relieve burden on individual GC (Government of Canada) workers.

TBS (Treasury Board Secretariat), in conjunction with business owners, will standardize metadata schemas and maximize their benefits to simplify and automate metadata usage and make it invisible to users.

### **Develop an information and data valuation framework (planned actions)**

Organizations that are information-centred and information-savvy recognize information and data as valuable assets. These organizations move beyond considering the business value of information and data to determining its value in monetary terms. Accounting for information and data as strategic assets, similar to human and financial assets, allows organizations and its partners to maximize the full potential of all information and data. When information and data assets are valued and managed as such, they can pave the way for innovation and cultural change within an organization. As the old adage goes, “You can’t manage what you don’t measure.” This also means that if something can’t be measured, it can’t be improved. It is therefore important to quantify the value of information and data through a formal methodology. Currently, there is no common agreement across government on how to measure the value of information and data.

TBS (Treasury Board Secretariat) will test industry practices for assigning value to unstructured information assets (infonomics) within targeted domains and examine best practices for potential broader use.

TBS (Treasury Board Secretariat) will leverage data inventories as a baseline for a systematic and coherent approach to the quantitative and qualitative evaluation of data, including the use of industry practices to quantify the value of individual data assets.

### **Develop an information management performance framework (planned actions)**

Considerable effort is expended throughout government to produce coherent analysis and reporting that leverages common metrics. Much of this effort is a result of inconsistent data definitions and traditional measures of IM (Information management) (for example, through the Management Accountability Framework) that reinforce an increasingly outdated view of IM (Information management) (recordkeeping). Differences in the level of maturity of IM (Information management) across departments place constraints on the availability of quality metrics.

By leveraging the right performance metrics, the government can better understand the impact of information and data management on its business. More importantly, it can serve to elicit desired behaviours on the part of departments and their employees. Designing metrics that are forward-looking and closely linked to business outcomes can help establish and better communicate the value of information and data. Furthermore, by shifting the focus of measurement away from compliance toward outcomes, desired behaviour changes can be fostered, including increased information sharing and reuse and improved data quality.

TBS will develop a performance framework, including a renewed Management Accountability Framework, that is rooted in business outcomes and results and is aligned with emerging needs. Over time, this framework will evolve into the digital policy performance framework.

## **Agility and innovation**

The GC (Government of Canada) is transforming its IM (Information management)-IT (Information technology) to better serve Canadians, with innovation being key to delivering on this agenda. Successful innovation combines creativity with process to transform novel ideas into business enablers that deliver tangible results. It embraces experimentation and intelligent risk taking, bringing new approaches that address existing problems and leverage future opportunities. Innovation calls for collaboration, both with new and traditional partners, to identify and break down any barriers that prevent us from achieving maximum results.

### **Lead innovation (planned actions)**

The role of CIOs is evolving from a service provider to a full strategic business partner and digital enabler. CIOs are innovation agents, business enablers and catalysts for enterprise transformation. Departmental CIOs will be strategic business partners who bring IM (Information management)-IT (Information technology) to the table in innovative ways to address the department's business needs. To explore working in ways that are more agile, new opportunities with various innovations hubs will be pursued.

### **Adopt modern and flexible business models (planned actions)**

To achieve a better balance between demand and capacity, SSC (Shared Services Canada) and PSPC (Public Services and Procurement Canada) will adopt cost-recovery business models for some IT (Information technology) services. Doing so will provide greater flexibility to provide agile and effective services to the government. As an enterprise, departments will achieve better business value by sharing IT (Information technology) resources, capacity and capabilities.

## **Provide tools and resources to make innovative use of information and data (planned actions)**

Departments have expressed a desire for safe sandbox environments in which to develop and test innovative uses of information and data. Departments expect that these environments are compliant with pertinent policies (for example, the Policy on Official Languages and the Standard on Web Accessibility).

Encouraging exploration of new ideas in managing information and data can bring the community together to experiment with creative approaches and help the GC (Government of Canada) adapt more quickly to the pace of change. By highlighting where innovation is happening, steps can be taken to encourage and enable innovation for broader implementation across the government. Incubating innovative solutions that create or exploit federal information and data can also generate enhanced value for the GC (Government of Canada). Furthermore, creating a clear path for proposing new ideas could focus departments' investment of their innovation reserves on information and data pilot projects. With a strong commitment to supporting innovation and increasing openness, the government can:

- inspire the creativity and develop the skills of future innovators
- attract key talent to the public service

TBS (Treasury Board Secretariat) will provide tools and resources for departments to test and make innovative use of information and data (for example, support for developing APIs (Application programming interfaces) that enhance access to open data).

## **Shift culture and processes toward open by design (planned actions)**

To achieve the vision of a more transparent, accountable and responsive government, an “open government” lens needs to increasingly be applied to new or renewed program and service design and at all stages of policy and program development and implementation.

The long-term goal is to transform the work processes and culture of the public service to one where programs, services and information are open by design. TBS (Treasury Board Secretariat) will lead work that includes designing new processes, protocols and standards to enable and facilitate the proactive release of government data and information by default.

## **Establish a Digital Advisory Board (actions underway)**

To benefit from a broader range of expertise and experience, the GC (Government of Canada) CIO (Chief Information Officer) will establish a Digital Advisory Board made up of CIOs in the federal, provincial and private sectors. The Digital Advisory Board will provide

advice to the GC (Government of Canada) CIO (Chief Information Officer) on IM (Information management)-IT (Information technology) activities related to strategic direction, service delivery and investment priorities.

### **Introduce digital government principles (actions underway)**

TBS (Treasury Board Secretariat) will develop a set of principles to guide digital development in the Government of Canada based on international best practices. These principles will guide and shape how government information, technology, and service delivery will be managed in a new digital ecosystem.

### **Advance financial management transformation (actions underway)**

Financial management transformation will modernize the business model for financial management across the GC (Government of Canada) to support:

- open and transparent government
- better service for Canadians
- evidence-based policy

The principal goal is to improve the business and systems of financial management across the GC (Government of Canada). Working with departments, TBS (Treasury Board Secretariat) will achieve this goal by:

- developing and applying policy instruments (policies, directives, guidelines and standards)
- building community support and leadership
- aligning and overseeing investments
- developing common solutions

### **Sustainability**

Ensuring that IM (Information management)-IT (Information technology) investments are sustainable and that they meet business needs will enable departments to provide better services to Canadians.

### **Ensure IT (Information technology) infrastructure sustainability (planned actions)**

A sustainable funding model must take into account the regular renewal cycle of IT (Information technology) infrastructure assets and the appropriate level of investment. TBS (Treasury Board Secretariat) and SSC (Shared Services Canada) will explore alternative financial and service delivery models to address IT (Information technology) renewal.

## **Rationalize investments (planned actions)**

In keeping with enterprise IM (Information management)-IT (Information technology) governance, spending on new or significant changes to certain IM (Information management)-IT (Information technology) and IT (Information technology)-enabled projects will be subject to consultation with TBS (Treasury Board Secretariat) and approval by CEPP (Committees on Enterprise Priorities and Planning). Consultation will include discussions on spending for systems for common business domains such as:

- case management
- IM (Information management)
- human resources management
- financial management
- other back office administrative processes
- identity and credential solutions
- IT (Information technology) infrastructure and associated solutions

Departments will take an enterprise approach to managing their portfolio of applications to:

- determine opportunities for common, government-wide solutions
- retire aging and at-risk applications

Applications that remain in use and that support mission-critical business functions are to be kept evergreen until they can be replaced by modern solutions.

## **Develop a process to balance infrastructure supply and demand (planned actions)**

In addition to prioritizing projects and initiatives, TBS (Treasury Board Secretariat) and SSC (Shared Services Canada) will develop a framework to allow departments and the government to access alternative service options where appropriate, while maintaining enterprise standards. This approach will reduce capacity pressures on SSC (Shared Services Canada) while allowing departments to continue progressing with projects, programs and service delivery.

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## **Secure**

The strategic goal of “secure” focuses on safeguarding sensitive government data and ensuring that Canadians accessing online services can trust the government with their personal information. As the shift to digital services increases and the sophistication and



frequency of cyberattacks grow, the GC (Government of Canada)'s defences must also evolve. Policy changes will be made to strengthen the security of the GC (Government of Canada)'s IM (Information management)-IT (Information technology) environment.

The strategic actions outlined below align with Communications Security Establishment Canada's (CSE (Communications Security Establishment)'s) top 10 security practices and with industry best practices. Departments will use CSE (Communications Security Establishment)'s top 10 practices to prioritize their IT (Information technology) security actions that will support the elimination of active cyberthreats on government networks.

The sections below list the strategic actions that are currently underway and those that represent new enterprise directions that may require additional approvals or funding in order to be implemented.

## **Actions underway**

### **Defence in depth**

- 18. Implement an enterprise approach to vulnerability and patch management
- 19. Manage and control administrative privileges

### **Trusted solutions and services**

- 20. Protect web transactions to and from external-facing websites
- 22. Implement a trusted digital identity for people accessing internal government networks and systems

## **Planned actions**

### **Defence in depth**

- 16. Secure the government's network perimeter
- 17. Implement end-point security profiles

### **Trusted solutions and services**

- 21. Implement an improved cyber-authentication service
- 23. Implement a secure communication service for classified information
- 24. Implement enterprise data loss prevention

### **Awareness and understanding**

- 25. Enable comprehensive understanding of end-point devices
- 26. Enhance awareness of enterprise cybersecurity threat and risk environment

**Note:** Numbering of the strategic actions above corresponds with the strategic actions

listed in Appendix B.

## **Defence in depth**

Canada's competitive advantage, its economic prosperity and its national security depend on government adopting new and accessible technologies to better serve Canadians and public service employees. If not managed well, however, making information and data more open could risk exposing networks, systems, devices and data, including personal information, vulnerable to malicious or accidental breaches. This is just one reason why strengthening IT (Information technology) security is paramount.

### **Secure the government's network perimeter (planned actions)**

Although the Internet is a game changer in how public service employees access and share information, it also brings considerable risk. Malicious software (malware) can be unknowingly downloaded from websites or through email and seriously compromise IM (Information management)-IT (Information technology) systems and disrupt government operations.

To protect the government's network, world-class monitoring services and defensive measures have been implemented at the government's network perimeter through SSC (Shared Services Canada)-managed gateways. The completion of network consolidation projects will ensure that all SSC (Shared Services Canada) partners use these gateways. There remain, however, departments that continue to use non-SSC (Shared Services Canada) networks to access the Internet.

To address risks to its network, the GC (Government of Canada) is standardizing protection and creating a secure, government-wide network perimeter. Departments that do not currently use SSC (Shared Services Canada) Internet services will be migrated to the SSC (Shared Services Canada)-managed enterprise network and will use SSC (Shared Services Canada) Internet services exclusively.

TBS (Treasury Board Secretariat), CSE (Communications Security Establishment) and SSC (Shared Services Canada) will establish additional trusted interconnection points between the government network and external partners to:

- provide standardized and secure connectivity with external partners and the Internet
- act as a gateway to cloud services

These actions will reduce the risk of rogue, ad hoc or unauthorized Internet connections to and from the government's networks. They will also enhance the government's ability to defensively monitor data that crosses the government perimeter and ensure maximum protection of government information assets.

## **Implement end-point security profiles (planned actions)**

Malicious parties frequently seek out exposed or misconfigured Internet-facing services or equipment to gain access to IM (Information management)-IT (Information technology) systems and information. End-point devices such as laptop computers, tablets and servers provide a doorway for such threats. Malware, rootkits (software tools to gain control of a system) and phishing can lead to the loss and compromise of government data, including personal information. Operating systems and applications that use default configuration settings typically include unnecessary components, services and options. These default settings are well known and easily discovered using automated tools.

In the enterprise context, weaknesses and misconfigurations in an organization's systems could be exploited and used to attack other organizations' systems. Making the government's end-point devices more resistant to attacks is key to securing the government enterprise.

Recognizing the risk posed by misconfigured end-point devices, SSC (Shared Services Canada), in consultation with TBS (Treasury Board Secretariat) and CSE (Communications Security Establishment), will develop end-point device profiles. These standardized profiles will be based on security best practices and will represent securely configured operating systems and applications. The profiles will be validated and refreshed regularly to update their security configuration. Additional security controls, such as host-based intrusion prevention and application whitelisting (a computer administrative practice used to prevent unauthorized programs from running) will be implemented to further ensure the integrity of systems and information.

## **Implement an enterprise approach to vulnerability and patch management (actions underway)**

The government must ensure that vulnerabilities are identified and remediated quickly to minimize the risk of future intrusion and potential loss. TBS (Treasury Board Secretariat) and SSC (Shared Services Canada) will implement an enterprise-wide vulnerability and patch management capability to systematically detect and remediate vulnerabilities. Departments will:

- implement these tools and processes
- meet standard timelines for remediation
- ensure quick response times for emergency or critical patch deployment

## **Manage and control administrative privileges (actions underway)**

Departments also need to manage internal risks to the security of their IM (Information management)-IT (Information technology) environment. Privileged accounts (such as local or domain administrators and other accounts that have elevated access) are the most powerful accounts in any organization. They are also the most targeted by malicious parties that wish to compromise government information.

TBS (Treasury Board Secretariat), SSC (Shared Services Canada) and departments will work together to minimize the misuse of any account that has elevated privileges, either malicious or accidental. Tools and processes will be implemented to ensure the proper management, control and monitoring of such accounts, including establishing strong authentication mechanisms for all privileged accounts.

Departments will also implement measures to manage and control the life cycle of and access to privileged accounts, including:

- audits and reviews to confirm validity of privileges
- continuous monitoring to look for uncharacteristic behaviour

## **Trusted solutions and services**

Establishing identity is fundamental to most government interactions that involve exchanging information or permitting access to sensitive resources.

### **Protect web transactions to and from external-facing websites (actions underway)**

As more Canadians interface electronically with the GC (Government of Canada), the amount of sensitive information transferred to and from government websites will increase. To maintain maximum trust in these online transactions, the government must protect them.

TBS (Treasury Board Secretariat) will establish an “HTTPS everywhere” standard that will require departments to use the HTTPS protocol for all external-facing websites and cloud services. This protocol, along with approved encryption algorithms, will ensure the secure transmission of data online and the delivery of secure web services.

### **Implement an improved cyber-authentication service (planned actions)**

Currently, Canadians and others external to the government can securely access government services online using a trusted credential. The credential (a username and password) is issued either by the GC (Government of Canada)’s GCKey service or by a private sector organization that has partnered with SecureKey Technologies to enable their customers to use their online credentials (such as card numbers or user names and passwords) to access GC (Government of Canada) services.

This mandatory solution for all online government applications offered to the public is cost-effective, secure and convenient for users. Still, improvements to the existing cyber-authentication service are needed to support new initiatives such as Canada's Digital Interchange. Building on the existing solution and maintaining an enterprise approach, TBS (Treasury Board Secretariat) and SSC (Shared Services Canada) will develop a renewed cyber-authentication service. This service will meet current business needs and support enhanced functionality required for future federated identity and digital service delivery initiatives.

### **Implement a trusted digital identity for people accessing internal government networks and systems (actions underway)**

TBS (Treasury Board Secretariat) will take an enterprise-wide approach to internal identity, credential and access management to:

- reduce costs
- promote interoperability
- improve end-user experience by reducing the need for multiple user IDs and passwords

Under TBS (Treasury Board Secretariat)'s leadership, SSC (Shared Services Canada) will implement common internal identity and credential processes and technologies tailored to the level of assurance required for particular business processes. For example, a unique digital identity will be needed to authenticate employees, contractors, trusted guests or any other authorized users who access internal government networks and systems.

Departments will migrate applications to this new enterprise service when their applications are upgraded as part of regular life-cycle maintenance of assets.

### **Implement a secure communication service for classified information (planned actions)**

Every day, departments create, store and process classified information. Failure to protect this information could lead to:

- national security risks
- economic losses
- loss of government credibility

Although several special environments allow some departments to safely share classified information, there is no common solution available government-wide.

SSC (Shared Services Canada), under the strategic direction of TBS (Treasury Board Secretariat) and supported by CSE (Communications Security Establishment), will implement a single, common and integrated enterprise-wide secret-level network to enable classified data to be securely transmitted, stored and processed across departments. Classified voice and mobile capabilities will also be implemented for users who need to regularly discuss classified information.

### **Implement enterprise data loss prevention (planned actions)**

With its responsibility for maintaining large amounts of sensitive data, the GC (Government of Canada) needs to minimize the risk of unauthorized disclosure. TBS (Treasury Board Secretariat) will establish a framework to support an enterprise approach to data loss prevention that will be supported by IM (Information management) solutions. Preventing the unauthorized transfer or release of sensitive information involves first identifying sensitive data. Unauthorized data flows and operations will be monitored, detected and blocked. SSC (Shared Services Canada), with departments, will implement the framework.

### **Awareness and understanding**

Understanding the assets within an IM (Information management)-IT (Information technology) environment is essential to knowing what to protect and enables the government to be more proactive and efficient when responding to threats and attacks.

### **Enable comprehensive understanding of end-point devices (planned actions)**

It is critical to be able to proactively and accurately determine:

- the status of all end-point devices
- what is running on them
- who is accessing them

End-point devices that pose a risk to the enterprise can be identified, allowing the government to be more effective when responding to threats and attacks.

Under TBS (Treasury Board Secretariat)'s leadership, SSC (Shared Services Canada) and other departments will acquire and implement tools and processes to enable a real-time, enterprise view of the current status and configuration of government end-point devices. Such information includes:

- hardware and software versions
- operating system versions
- patch installations

Authorities will be strengthened and procedures established to mitigate risks to the GC

(Government of Canada) network should immediate action be required.

### **Enhance awareness of enterprise cyberthreat and risk environment (planned actions)**

Departments are accountable for managing cyber-risks to their particular program areas. However, as the government adopts an enterprise approach and programs and services become more integrated, it will be imperative that cyber-risks are also managed at the enterprise level.

Key to effectively managing enterprise-wide risk is understanding the changing cyberthreat landscape (for example, who is trying to exploit government networks and systems, by what means, and for what purpose). Departments indicate a strong desire for a more proactive approach for GC (Government of Canada) cybersecurity that emphasizes research and innovation in order to keep pace with emerging threats, technologies and trends. Departments also have a strong desire to work cooperatively to:

- improve the GC (Government of Canada)'s security environment
- reduce barriers to collaboration and sharing of information

A better understanding of departmental threat environments would allow departments to take a risk-based approach and focus cybersecurity efforts and resources rather than attempt to blindly protect against all possible threats.

Cybersecurity is a new reality for GC (Government of Canada) employees, and technological solutions alone will not protect the GC (Government of Canada) from cyberthreats. All tools and technologies used in a strong GC (Government of Canada) cyber-posture can be undermined by uninformed user behaviour.

TBS (Treasury Board Secretariat) will establish a centralized capability to conduct governance, risk and compliance management activities in order to gain a holistic picture of cyber-related business risks in the GC (Government of Canada). This capability will pull together data from multiple sources, for example, threat assessments, risk registers, investment plans, audit results and critical asset listings, to feed a consolidated enterprise view of cyber-risks. One of the key data sources will be the GC (Government of Canada) Enterprise Threat Assessment, which CSE (Communications Security Establishment) will refresh on an ongoing basis to keep pace with evolving internal and external cyberthreat environments.

The continuous monitoring of the cyberthreat and risk landscape will inform decision making and influence how corrective actions are prioritized across the enterprise to ensure maximum protection of government assets.

## Community

The strategic goal of “community” focuses on building a high-performing IM (Information management)-IT (Information technology) workforce and ensuring that public service employees have a modern workplace, professional development and the IM (Information management)-IT (Information technology) tools they need to do their jobs.

The sections below list strategic actions that are currently underway and those that represent new enterprise directions that may require additional approvals or funding to be implemented.

### Actions underway

#### IM (Information management)-IT (Information technology) workforce

- 39. Enable career development
- 40. Improve diversity

#### Modern workplace

- 41. Modernize workplace technology devices
- 42. Support a mobile workforce
- 43. Provide Wi-Fi access
- 44. Provide desktop videoconferencing to employees
- 45. Implement managed print services
- 74. Improve IM (Information management)-IT (Information technology) accessibility

#### Digital collaboration

- 47. Advance digital collaboration
- 75. Expand open government training and outreach

### Planned actions

#### IM (Information management)-IT (Information technology) workforce

- 69. Strengthen recruitment
- 70. Modernize information and data management profession
- 71. Develop information and data management training
- 72. Strengthen leadership development
- 73. Lead targeted initiatives



## Digital collaboration

- 46. Promote digital literacy and collaboration

**Note:** Numbering of the strategic actions above corresponds with the strategic actions listed in [Appendix B](#).

## **IM (Information management)-IT (Information technology) workforce**

Successfully delivering IM (Information management)-IT (Information technology) services requires a skilled, agile, connected and high-performing IM (Information management)-IT (Information technology) workforce that combines knowledge of business and technology. IM (Information management)-IT (Information technology) professionals need to be able to keep pace with the speed at which the business environment is evolving. Today, the significant transformation of CIO (Chief Information Officer) organizations across the enterprise continues, calling for a broader and more integrated range of competencies in this increasingly digital and service-oriented work environment. To enable a high-performing IM (Information management)-IT (Information technology) workforce, 3 overarching priorities have been established:

1. evolve toward an enhanced community management model
2. enhance the diversity of the IM (Information management)-IT (Information technology) workforce
3. advance transformation

Areas of action that support these priorities include recruitment, consideration of diversity, career development, leadership development, and targeted initiatives to source, attract, onboard, develop and grow the IM (Information management)-IT (Information technology) workforce. Partnerships, workforce analytics, research and collaboration form the foundation that supports these activities.

### **Enable career development (actions underway)**

Further enabling IM (Information management)-IT (Information technology) professionals to evolve into new roles, and addressing competency gaps in areas such as strategic thinking, communications, innovation, change leadership and agility, requires investment in employees. To support IM (Information management)-IT (Information technology) professionals, retain talent and re-skill the workforce, emphasis will be placed on:

- a career development portal
- learning provider solutions
- a development approach for the CS (Computer systems) (Computer Systems) Group

TBS (Treasury Board Secretariat), in conjunction with the Canada School of Public Service, will lead work in this area.

### **Improve diversity (actions underway)**

An innovative workplace is one where the workforce reflects the full breadth of the talent pool. Diverse teams bring broader perspectives and ideas for greater capacity to find creative solutions.

Currently, IT (Information technology) remains a predominantly male domain. In Canada, recent data reveals that women occupy only 27% of the CS (Computer systems) population in the federal public service. Moreover, the percentage of millennial women in the CS (Computer systems) ranks has diminished steadily to a low of under 15%. Activities to enhance diversity include focusing on recruitment and interdepartmental action plans. Building on current efforts, specific initiatives include the development of a multi-year action plan to improve diversity, inclusion and representation via recruitment, retention and development for women of the CS (Computer systems) Group. To further support the government's commitments to achieving greater representation and a balanced and diverse workforce, departments will develop and leverage partnerships with departments that encourage IT (Information technology) as a career choice for young women. Departments and central agencies will also work to increase labour mobility among women by encouraging leaders in the public service and the private sector to consider roles in the government's IT (Information technology) community.

### **Strengthen recruitment (planned actions)**

To address challenges that include branding issues, shortfalls in capacity and competency gaps, the GC (Government of Canada) will focus on CS (Computer systems) recruitment campaigns, enterprise approaches and partnerships to support recruitment efforts and onboarding. Specific initiatives will focus on:

- outreach to college and university campuses
- onboarding tools and initiatives to improve the integration of new recruits
- partnership with the Public Service Commission of Canada to create a partially assessed CS (Computer systems) inventory

TBS (Treasury Board Secretariat), working with departments, will lead work in these areas. Such initiatives will better position the GC (Government of Canada) to address capacity and competency gaps more efficiently.

### **Modernize information and data management profession (planned actions)**

Revitalizing the information and data management profession is necessary to ensure that it keeps pace with current and emerging business needs in a digital, open and service-oriented environment. Currently, HR classifications (for example, the CS (Computer systems) Group, the Administrative Services (AS) Group and the LS (Library Science) Group) do not adequately reflect the knowledge, skills and competencies needed. Furthermore, information and data professionals should be more involved early on in the development process when designing or renewing programs and systems to ensure that issues associated with information and data management and sharing are proactively considered. Realigning roles and responsibilities of information and data management professionals and other key stakeholders could help improve collaboration and overall coherence.

TBS (Treasury Board Secretariat) will work with Office of the Chief Human Resources Officer to explore a classification standard for information and data management professionals, including developing new standardized:

- generic work streams and job descriptions
- competency profiles
- organizational structures

### **Develop information and data management training (planned actions)**

By themselves, new policies, processes and technology will not bring the change needed to support digital government. As the need for quality information and data to support evidence-based decision making and digital service delivery continues to evolve, so too must the competencies of the information and data professionals that support the delivery of government programs and services.

By broadening the scope of competencies and the capacity of information and data management professionals to include business analysis, enterprise architecture, digital citizenship and horizontal skills, the government can enable them to meet evolving business needs. Also, educating information and data professionals to speak the language of the business side of government would help shift the overall focus of information and data management from process to business outcomes, making information and data a central part of today's digital workspace.

TBS (Treasury Board Secretariat) will develop partnerships to design learning and development opportunities for the next generation of information and data professionals.

### **Strengthen leadership development (planned actions)**

There is a requirement to invest in current and aspiring leaders across the enterprise to:

- address talent retention issues
- increase capacity to develop leadership competencies
- address gaps in skills

Emphasis will be placed on:

- talent management and succession planning
- learning provider solutions
- cross-pollination with organizations outside the GC (Government of Canada)

Specific leadership development efforts include:

- talent reviews
- promoting leadership development programs at the Canada School of Public Service
- tracking and facilitating the movement of IM (Information management)-IT (Information technology) leadership across the enterprise

TBS (Treasury Board Secretariat) will lead work in these areas.

### **Lead targeted initiatives (planned actions)**

The role of CIOs and their organizations continues to evolve, with a shift toward being a transformational business leader, technology strategist and innovator. Today's environment further calls for experimentation and smart risk taking. To enable CIOs to become increasingly influential in shaping the business and supporting innovation, a number of targeted initiatives have been identified, including:

- a talent cloud to increase resourcing agility
- strengthened relationships between departmental CIOs and the GC (Government of Canada) CIO (Chief Information Officer)

TBS (Treasury Board Secretariat), working with departments, will lead work in these areas.

### **Modern workplace**

Information and technology are key enablers of a modern workplace that support collaboration, innovation and mobility. Ensuring that smart technology provides a consistent, accessible workplace experience throughout government will improve how all employees work together and provide better services to Canadians.

### **Modernize workplace technology devices (actions underway)**

Workplace technology devices are essential for a modern workplace and a collaborative, mobile workforce, consistent with the Blueprint 2020 vision. TBS (Treasury Board Secretariat) will work closely with departments to ensure that workplace technology devices meet the Blueprint 2020 vision.

TBS (Treasury Board Secretariat) will establish enterprise standards and processes for life-cycle management and set direction to guide future workplace technology devices standards and secure configurations.

SSC (Shared Services Canada) will continue to consolidate contracts and procurement activities to improve security, reduce costs and improve service to Canadians. SSC (Shared Services Canada) will also procure workplace technology devices and work with TBS (Treasury Board Secretariat) and other departments to standardize devices.

Departments are responsible for supporting and maintaining workplace technology devices. They will explore support models such as self-service and regional clusters to reduce costs while promoting consistent user experience and service expectations.

### **Support a mobile workforce (actions underway)**

The GC (Government of Canada) is committed to and encourages an open and collaborative work environment where mobile devices are used. TBS (Treasury Board Secretariat) will develop a mobility strategy, focusing initially on smartphones. Departments will balance the cost of these devices, and their support, against the business value achieved.

### **Provide Wi-Fi access (actions underway)**

Access to wireless data networks is critical for employee productivity. The broader deployment of Wi-Fi may also reduce costs by displacing the need to provide wireline infrastructure, which is expensive to install and maintain.

TBS (Treasury Board Secretariat) and SSC (Shared Services Canada) will put in place the necessary services and policies to support Wi-Fi usage. Departments will implement Wi-Fi access to networks for all employees within common areas and their workspaces, where the job requires mobility. Departments will migrate to Wi-Fi-capable devices and support Wi-Fi access to local area networks for registered users, as well as Wi-Fi guest-network access where security requirements are appropriate.

### **Provide desktop videoconferencing to employees (actions underway)**

Increased access to videoconferencing supports the collaborative operations of virtual teams across departments, time zones and regions. Departments will complete the re-engineering of their in-house videoconferencing facilities to enable full interconnectivity across the government. Where appropriate and where a user profile supports such functionality, SSC (Shared Services Canada) will also create the network and bandwidth capacity needed to support videoconferencing at desktops.

### **Implement managed print services (actions underway)**

The GC (Government of Canada) will continue to improve the sustainability of workplace operations by completing the implementation of the Centre for Greening Government's strategy for printing. Departments will achieve an 8:1 average ratio of office employees to printing units. Departments will also use SSC (Shared Services Canada)'s managed print services to facilitate improvements in their organization's environmental efficiencies in imaging, specifically:

- reduced energy costs and paper consumption
- proper disposal of electronic equipment

### **Improve IM (Information management)-IT (Information technology) accessibility (actions underway)**

An innovative workplace requires all its employees to contribute to their fullest potential and should attract the best and brightest talent. Today, public service employees with disabilities continue to face systemic barriers in the workplace, as information and communications technologies are not as accessible as they should be, with key tools posing accessibility and usability barriers to varying degrees.

In line with Blueprint 2020 and efforts by the federal government in the realm of accessibility, TBS (Treasury Board Secretariat) has established an interdepartmental task group of leaders, experts and practitioners to identify issues and propose targeted initiatives to address IM (Information management)-IT (Information technology) accessibility for public service employees with disabilities. TBS (Treasury Board Secretariat) will also continue to seek out partnerships and work collaboratively with departments that are responsible for enhancing accessibility to advance efforts in improving IM (Information management)-IT (Information technology) accessibility.

### **Digital collaboration**

Digital collaboration refers to the skills and mindset needed to work effectively in an open digital environment. Tools that respect government requirements such as accessibility, privacy, security, IM (Information management) and official languages will be used to promote digital collaboration.

### **Promote digital literacy and collaboration (planned actions)**

Digital literacy goes beyond basic computer skills. It is essential to make the most of investments already made in the IM (Information management)-IT (Information technology) environment, devices and tools, and to ensure that IM (Information management)-IT (Information technology) helps workforce productivity rather than detracts from it.

Data literacy is a skill required for working digitally. GC (Government of Canada) employees need to be able to extract high-value insights from the wealth of available information and data and to communicate them.

TBS (Treasury Board Secretariat) will develop partnerships to leverage and design an engagement and awareness program for all public servants to enable them to:

- become more data-literate
- leverage evidence-based decision making
- engage internally and externally as digital citizens

Public service employees should also be able to use GCTools such as GCpedia, GCconnex and GCintranet to share information and build the professional networks needed to respond to shifting priorities and problems. Collaborating digitally involves “working out loud,” where others can see, benefit from and help improve how employees work.

To promote a culture of openness and collaboration, departments will nurture these skills throughout the public service by:

- adopting and using GCTools for everyday work
- deploying targeted and general learning and community outreach activities
- promoting the use of self-directed learning tools and materials

Senior leaders’ adoption of GCTools will be critical to successfully integrating digital collaboration into their departments and to demonstrating the full benefits of these collaborative tools. Leaders will adopt an “open first” approach toward content creation and encourage their employees to participate in shared knowledge and collaborative digital spaces, other than where security requirements prohibit such an approach.

### **Advance digital collaboration (actions underway)**

GCTools such as GCpedia, GCconnex and the GCintranet enable collaboration across the government. Employees are able to access and share information and work across departments and geographic boundaries, resulting in better service to Canadians.

GCTools that support government requirements for accessibility and official languages will be further developed and integrated into other applications. These tools will allow employees to easily connect with the colleagues and information they need to work effectively. GCTools will connect to a digital workspace that provides simplified access to other activities such as staffing, learning and professional development.

TBS (Treasury Board Secretariat) will make adopting GCTools part of standard practices for employee onboarding throughout government. Departments will then be in a better position to adopt and use GCTools through the Ambassadors Network and in formal training and ongoing communications. The Ambassadors Network consists of volunteers from various departments and regions that provide support to teams using GCpedia and GCconnex to enhance their work.

Departments will decommission stand-alone collaborative platforms unless they are linked to core local business requirements. Email communication will be reduced in favour of open discussions or instant messaging, where transitory communications can occur without bogging down government systems.

### **Expand open government training and outreach (actions underway)**

Training and awareness sessions are being provided to public servants across the federal government to enhance knowledge and skills for open government. The training resources developed will be made available through government-wide platforms, including through the Canada School of Public Service and on open.canada.ca.

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## **The way forward**

### **Implementing the Strategic Plan**

In support of the GC (Government of Canada), the Deputy Minister Committee on Enterprise Priorities and Planning (CEPP (Committees on Enterprise Priorities and Planning)) provides oversight and guidance on government IM (Information management) -IT (Information technology) investments, supported by the Assistant Deputy Minister (ADM (Assistant Deputy Minister)) CEPP (Committees on Enterprise Priorities and



Planning). Investments come forward through the annual departmental IT (Information technology) planning process and are analyzed and prioritized by TBS (Treasury Board Secretariat) and SSC (Shared Services Canada) in order to understand demand and capacity. An implementation roadmap for the plan's initiatives has been developed (see [Appendix B](#)), and financial analysis is underway to help determine the extent and pace of implementation, particularly in terms of infrastructure modernization. This roadmap will be refined as planning advances.

Information, data and technology can be leveraged to support the culture change required within the GC (Government of Canada) to shift to an open and service-oriented organization that delivers programs and services to citizens and businesses in simple, modern and effective ways that are:

- optimized for digital
- available anytime, anywhere and from any device

## Risks and mitigation strategies

Table 5 outlines risks to implementing the Strategic Plan and their mitigation strategies.

**Table 5: risks to implementation of the Strategic Plan and mitigation strategies**

Risk to implementation	Mitigation strategy
<b>Lack of capacity (people):</b> There is a risk that the government will not have sufficient capacity to implement the plan.	Some strategic actions are identified as directional and can be deferred until sufficient capacity is available. CEPP (Committees on Enterprise Priorities and Planning) (governance) will provide direction and oversee the implementation of the plan.
<b>Too much to do:</b> There is a risk that the plan is overly ambitious and that the government will not be able to absorb all the new work.	Some strategic actions are identified as directional and can be deferred until sufficient capacity is available. CEPP (Committees on Enterprise Priorities and Planning) (governance) will provide direction and oversee the implementation of the plan.

Risk to implementation	Mitigation strategy
<b>Insufficient funds:</b> There is a risk of insufficient funding to implement all strategic actions identified in the plan.	Strategic actions that are identified as directional will not proceed until funding is secured. Those currently underway will be assessed to ensure that sufficient funding is available to complete implementation.
<b>Failure to adopt the enterprise approach:</b> There is a risk that departments will not all act in an enterprise manner.	CEPP (Committees on Enterprise Priorities and Planning) will drive departments to move toward enterprise IM (Information management)-IT (Information technology) solutions for consolidated services and address exceptions.
<b>Retiring IM (Information management)-IT (Information technology) workforce and competency gaps:</b> There is a risk that the government will not retain its IM (Information management)-IT (Information technology) workforce due to increasing retirements and gaps in required competencies.	Impacts could be avoided by actions to strengthen recruitment, enable career development, improve diversity, and invest in developing leadership.
<b>Significant cyber-event:</b> There is a risk that a significant cyber-event could occur, delaying implementation of the plan.	The impact of such an event could be reduced through measures such as: <ul style="list-style-type: none"> <li>• securing the network perimeter</li> <li>• implementing security profiles for end-point devices to reduce malicious threats</li> <li>• implementing vulnerability and patch management</li> <li>• enhancing enterprise-wide awareness of the government's cyberthreat and risk environment</li> </ul>

Risk to implementation	Mitigation strategy
<p><b>Resistance to change and insufficient momentum to drive culture change:</b> There is a risk that employees will not want to or be able to change the culture enough to drive the change agenda (for example, break down silos, cultivate the mindset of “fail fast and iterate” (experimenting with small components and building from the results) openness and collaboration). Resistance to change, if not acknowledged and addressed, could delay or inhibit the realization of expected results and outcomes, as culture change is not a short-term activity.</p>	<p>TBS (Treasury Board Secretariat), through advocacy and promotional campaigns, will encourage departments to adopt the principles outlined in the Strategic Plan. Providing skills training and collaboration tools will help develop the desired new behaviours. In addition, policy direction and language regarding CIOs as business partners and integrators will promote the required behaviours over time.</p>

## Measuring progress

CEPP (Committees on Enterprise Priorities and Planning) will provide direction and oversight in implementing the Strategic Plan, including the monitoring of enterprise-wide implementation risk.

Progress toward achieving the strategic goals outlined in the Strategic Plan will be tracked, evaluated and reported. Key performance indicators have been identified for strategic actions (see [Appendix C](#)). The indicators will be reviewed in 2017 and revised as required. Benchmarks and targets will also be established in 2017, in consultation with departments, as will leveraging existing assessment frameworks and tools, such as:

- the Management Accountability Framework
- key performance indicators for internal services
- reports on departmental priorities and performance

CEPP (Committees on Enterprise Priorities and Planning) will track the overall progress of the Strategic Plan, and a yearly progress report will be provided to the Secretary of the Treasury Board.

## Staying evergreen

On an ongoing basis, CEPP (Committees on Enterprise Priorities and Planning) will:

- assess progress

- consider the Strategic Plan's effectiveness
- align resources with priorities to get the intended results

Updates will be aligned with the new digital policy and strategy and the annual departmental IT (Information technology) planning cycle, and will be completed in September to allow departmental IT (Information technology) plans to reflect new directions.

Advised by CEPP (Committees on Enterprise Priorities and Planning), TBS (Treasury Board Secretariat) will make adjustments where necessary to ensure that the Strategic Plan:

- remains relevant and aligned with government priorities
- addresses IM (Information management)-IT (Information technology) issues
- keeps pace with the ever-changing digital landscape
- assigns appropriate accountabilities

By ensuring a strategic, whole-of-government approach to the GC (Government of Canada)'s information and technology investments, we will drive better service to Canadians, ensure that our networks and information are more secure, and deliver better value for money. We will enable the public service to deliver its best for Canadians.

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## **Appendix A: Government of Canada IM (Information management)-IT (Information technology) modernization priorities**

The GC (Government of Canada)'s IM (Information management)-IT (Information technology) modernization priorities are used in the GC (Government of Canada) departmental IT (Information technology) planning process to ensure departments are aligned with initiatives and spending at an enterprise level and to support prioritization of projects and activities across the GC (Government of Canada) through the ADM (Assistant Deputy Minister) and DM (Deputy Minister) CEPP (Committees on Enterprise Priorities and Planning).

### **Top priorities for departments in the 2018 to 2019 fiscal year**

The priorities outlined in Table 6 will enable the shift to digital service delivery.

**Table 6: top priorities for departments in the 2018 to 2019 fiscal year**

Priority (lead)	Strategic actions	Overview
Stabilize legacy (SSC (Shared Services Canada))	6, 35	Activities required to evergreen infrastructure and reduce risks related to aging IT (Information technology), including email transformation.
Departmental application strategy and plan for data centre consolidation and cloud adoption (Departments and SSC (Shared Services Canada))	4, 7	To support data centre consolidation and cloud adoption, departments require a strategy and plan to facilitate the transition of business applications from legacy data centres to new environments.
Service management (SSC (Shared Services Canada), PSPC (Public Services and Procurement Canada))	1, 2, 3	Implementation of enterprise service management processes and supporting tool set for consistency across departments and improved end-to-end service delivery.
GC (Government of Canada) Interoperability (TBS (Treasury Board Secretariat)-CIOB (Chief Information Officer Branch))	11	The need for interoperability arises from the GC (Government of Canada)'s pursuit of achieving improvements in the management and cost of government operations and for a more transparent, accountable and responsive federal government. Expected outcomes resulting from improved interoperability include seamless information flow across jurisdictions, cost optimizations through reuse, increased responsiveness and agility, and improved reporting.

Priority (lead)	Strategic actions	Overview
Migration to GC (Government of Canada) Identity, Credential and Access Management (ICAM) Service (TBS (Treasury Board Secretariat)-CIOB (Chief Information Officer Branch), SSC (Shared Services Canada))	22	GC (Government of Canada) ICAM is a critical, foundational element of the overall GC (Government of Canada) Enterprise Security Architecture (ESA) Program. GC (Government of Canada) ICAM will provide a GC (Government of Canada)-wide solution that will decrease costs, enhance the experience and efficiency of end-users, improve the overall security posture of GC (Government of Canada) networks, systems and applications, and provide greater control of privacy. GC (Government of Canada) ICAM will be implemented in a phased, incremental approach over a number of years.
Open government (TBS (Treasury Board Secretariat)-CIOB (Chief Information Officer Branch))	64, 75	Open government is about making government more accessible to everyone. This means giving greater access to government data and information to the Canadian public and the business community.

### Additional priorities moving forward

Priority (lead)	Strategic actions	Overview
Data centre consolidation (SSC (Shared Services Canada))	4	SSC (Shared Services Canada) is in the process of establishing the GC (Government of Canada)'s future IT (Information technology) infrastructure: a cost-effective and robust IT (Information technology) backbone that will support the current and future needs of our partner departments. As we transform our infrastructure, SSC (Shared Services Canada) and partner departments will need to work together to migrate applications and workloads from the legacy environment to a new, modern and consolidated environment.

Priority (lead)	Strategic actions	Overview
Network consolidation (SSC (Shared Services Canada))	5	The GCNet WAN Services project will consolidate and modernize wide-area network services for SSC (Shared Services Canada) and its partners and clients to reduce costs, increase security, and enhance program delivery to Canadian citizens and businesses.
Email solution (SSC (Shared Services Canada))	6	The Email Transformation Initiative will consolidate and modernize email services to reduce costs, increase security and enhance program delivery to Canadian citizens and businesses.
Preparation for Workplace Technology Device transformation (SSC (Shared Services Canada))	41	TBS (Treasury Board Secretariat)-CIOB (Chief Information Officer Branch) will establish, publish and update a standard minimum software configuration for personal computers. The minimum standard will be based on an X86-64 bit and will include a minimum operating system configuration plus other software considered necessary for productivity, remote management and cybersecurity.
Adoption of managed GC (Government of Canada) HR system (TBS (Treasury Board Secretariat)-OCHRO (Office of the Chief Human Resources Officer) (Office of the Chief Human Resources Officer))	n/a	My GCHR (PeopleSoft) v9.1 has been designated as the standard for the GC (Government of Canada) people management system. My GCHR will be the one-stop solution for all HR administrative transactions.

Priority (lead)	Strategic actions	Overview
Adoption of GCDOCS for document management (TBS (Treasury Board Secretariat)-CIOB (Chief Information Officer Branch))	56	GCDOCS is the <u>GC (Government of Canada)</u> official electronics document records management solution to support departments in their <u>information management obligations</u> for information life-cycle management. Within a GCDOCS enterprise repository, departments can collect, store, share, organize, manage and search content. GCDOCS enables document-centred collaboration while offering robust access controls through user and group administration rights.
Shared case management (TBS (Treasury Board Secretariat)-CIOB (Chief Information Officer Branch))	n/a	The goal of this initiative is to provide a common case-management solution to departments across the <u>GC (Government of Canada)</u> . This is a key initiative aligned with <u>GC (Government of Canada) IT (Information technology)</u> modernization strategies.
Financial management transformation (TBS (Treasury Board Secretariat)-OCG (Office of the Comptroller General) (Office of the Comptroller General))	67	Financial management transformation will transform and modernize the financial management function to enable chief financial officers and the financial management function to provide higher-value services and advice to programs and decision makers, provide timely and accurate financial and resource management information across the <u>GC (Government of Canada)</u> , streamline financial services, and create an efficient and effective financial management systems environment. The objective is to become best in class in terms of operational efficiency, business support effectiveness, and ability to provide increased value to the business decision makers and Canadians.



Priority (lead)	Strategic actions	Overview
Transformation of Pay Administration (TPA) Initiative (PSPC (Public Services and Procurement Canada))	n/a	The Pay Modernization Project replaced the government's outdated pay system with Phoenix, a modern, commercial off-the-shelf solution that includes streamlined and modernized business processes. Phoenix provides increased automation and self-service, and seamless integration with the GC (Government of Canada)'s Human Resources Management System (GC (Government of Canada) HRMS, PeopleSoft). The focus will be to ensure that public servants are paid accurately and promptly for the highly valued work they do on behalf of Canadians and that the pay system is stabilized and able to perform within service standards.

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## Appendix B: implementation roadmap

### Service

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
Service management				
1. Develop IT (Information technology) service portfolios and catalogues	Yes	No	SSC (Shared Services Canada), PSPC (Public Services and Procurement Canada)	2017

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
2. Report on key areas of IT (Information technology) system health performance	Yes	No	SSC (Shared Services Canada), PSPC (Public Services and Procurement Canada)	2017
3. Implement enterprise IT (Information technology) service management tools	No	Yes	SSC (Shared Services Canada), departments	TBD
48. Develop digital policy	Yes	No	TBS (Treasury Board Secretariat)	2018
49. Identify and prioritize SSC (Shared Services Canada) essential services	Yes	No	SSC (Shared Services Canada), TBS (Treasury Board Secretariat)	2018
50. Establish SSC (Shared Services Canada) asset inventory and baseline	Yes	No	SSC (Shared Services Canada)	2019
Cloud first				
7. Adopt cloud services	Yes	No	SSC (Shared Services Canada), departments	TBD
8. Establish a cloud service broker	Yes	No	SSC (Shared Services Canada)	TBD
9. Offer public cloud services	Yes	No	SSC (Shared Services Canada)	TBD

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
10. Offer private cloud services	Yes	No	SSC (Shared Services Canada)	TBD
Technology modernization				
4. Complete data centre consolidation and modernization	Yes	No	SSC (Shared Services Canada), departments	TBD
5. Complete telecom / network consolidation	Yes	No	SSC (Shared Services Canada), departments	TBD
6. Reassess government email consolidation	Yes	No	SSC (Shared Services Canada), departments	TBD
Information and data sharing				
51. Determine the feasibility of developing a “tell us once” approach for government	No	Yes	TBS (Treasury Board Secretariat)	TBD
11. Build a platform for enterprise interoperability	Yes	No	TBS (Treasury Board Secretariat), PSPC (Public Services and Procurement Canada), SSC (Shared Services Canada)	2019
52. Introduce a strategy for use of open source software and open standards	No	Yes	TBS (Treasury Board Secretariat)	TBD

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
12. Introduce a mobile application strategy and framework	No	Yes	TBS (Treasury Board Secretariat)	TBD
53. Develop an API strategy	Yes	No	TBS (Treasury Board Secretariat)	2018
13. Introduce a government API store	Yes	No	TBS (Treasury Board Secretariat)	TBD
54. Enhance online infrastructure to enable departments to release their data and information	Yes	No	TBS (Treasury Board Secretariat), Open Data Exchange	TBD
55. Develop master data management program	No	Yes	TBS (Treasury Board Secretariat), departments	TBD
15. Advance analytics	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	TBD
14. Implement a platform for external collaboration	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), PSPC (Public Services and Procurement Canada), departments	TBD
56. Implement GCDOCS	Yes	No	TBS (Treasury Board Secretariat), PSPC (Public Services and Procurement Canada), departments	2022

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
57. Migrate websites to Canada.ca and assess options for a single GC digital service platform	Yes	No	TBS (Treasury Board Secretariat), HC (Health Canada), CRA (Canada Revenue Agency), IRCC (Immigration, Refugees and Citizenship Canada), ECCC (Environment and Climate Change Canada)	TBD

## Manage

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
Governance				
27. Establish enterprise IM (Information management)-IT (Information technology) governance	Yes	No	TBS (Treasury Board Secretariat)	2017
28. Develop methods to prioritize investments in legacy and transformation initiatives	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada)	2017
29. Document roles and responsibilities for IT (Information technology) and IT (Information technology) security	No	Yes	TBS (Treasury Board Secretariat)	2017

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
58. Introduce stronger project oversight at the concept phase	No	Yes	TBS (Treasury Board Secretariat)	2019
59. Establish data governance	No	Yes	TBS (Treasury Board Secretariat)	TBD
Enterprise architecture alignment and practices				
30. Evolve IM (Information management)-IT (Information technology) management practices, processes and tools	Yes	No	TBS (Treasury Board Secretariat), departments	Ongoing
31. Develop enterprise architectures for business, information, applications and technology	Yes	No	TBS (Treasury Board Secretariat), functional communities	Ongoing
32. Adopt agile approaches to implementing business solutions	Yes	No	Departments	Ongoing
60. Standardize metadata	No	Yes	TBS (Treasury Board Secretariat), departments	TBD
61. Develop information and data valuation framework	No	Yes	TBS (Treasury Board Secretariat)	TBD
62. Develop an information management performance framework	No	Yes	TBS (Treasury Board Secretariat)	TBD

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
Agility and innovation				
33. Lead innovation	No	Yes	Departments	TBD
34. Adopt modern and flexible business models	No	Yes	SSC (Shared Services Canada), PSPC (Public Services and Procurement Canada)	TBD
63. Provide tools and resources to make innovative use of information and data	No	Yes	TBS (Treasury Board Secretariat)	TBD
64. Shift culture and processes toward open by design	No	Yes	TBS (Treasury Board Secretariat), departments	2021
65. Establish a Digital Advisory Board	Yes	No	TBS (Treasury Board Secretariat)	2018
66. Establish digital government principles	Yes	No	TBS (Treasury Board Secretariat)	2018
67. Advance financial management transformation	Yes	No	TBS (Treasury Board Secretariat), departments	TBD
Sustainability				
35. Ensure IT (Information technology) infrastructure sustainability	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada)	2019

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
36. Rationalize investments	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	TBD
68. Develop process to balance infrastructure supply and demand	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	2018

## Security

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
Defence in depth				
16. Secure the government's network perimeter	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), CSE (Communications Security Establishment)	TBD
17. Implement end-point security profiles	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), CSE (Communications Security Establishment), departments	TBD



Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
18. Implement an enterprise approach to vulnerability and patch management	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	2019
19. Manage and control administrative privileges	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	2019
Trusted solutions and services				
20. Protect web transactions to and from external-facing websites	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	2018
21. Implement an improved cyber-authentication service	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada)	TBD
22. Implement a trusted digital identity for people accessing internal government networks and systems	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	2018
23. Implement a secure communication service for classified information	No	Yes	TBS (Treasury Board Secretariat), CSE (Communications Security Establishment), SSC (Shared Services Canada), departments	TBD

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
24. Implement enterprise data loss prevention	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	TBD
Awareness and understanding				
25. Enable comprehensive understanding of end-point devices	No	Yes	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	TBD
26. Enhance awareness of enterprise cybersecurity threat and risk environment	No	Yes	TBS (Treasury Board Secretariat), CSE (Communications Security Establishment), departments	TBD

## Community

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
IM (Information management)-IT (Information technology) workforce				
39. Enable career development	Yes	No	TBS (Treasury Board Secretariat), departments, CSPS	Ongoing
40. Improve diversity	Yes	No	TBS (Treasury Board Secretariat), departments	2017
69. Strengthen recruitment	No	Yes	TBS (Treasury Board Secretariat), departments	TBD

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
70. Modernize information and data management profession	No	Yes	TBS (Treasury Board Secretariat)	Ongoing
71. Develop information and data management training	No	Yes	TBS (Treasury Board Secretariat), CSPS	TBD
72. Strengthen leadership development	No	Yes	TBS (Treasury Board Secretariat)	TBD
73. Lead targeted initiatives	No	Yes	TBS (Treasury Board Secretariat)	TBD
Modern workplace				
41. Modernize workplace technology devices	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	Ongoing
42. Support a mobile workforce	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	2020
43. Provide Wi-Fi access	Yes	No	TBS (Treasury Board Secretariat), SSC (Shared Services Canada), departments	2020
44. Provide desktop videoconferencing to employees	Yes	No	SSC (Shared Services Canada), departments	2020

Implementation roadmap				
Strategic actions	Status		Involved	Target completion
	Underway	Directional		
45. Implement managed print services	Yes	No	SSC (Shared Services Canada), departments	Ongoing
74. Improve IM (Information management)-IT (Information technology) accessibility	Yes	No	TBS (Treasury Board Secretariat), departments	TBD
Digital collaboration				
46. Promote digital literacy and collaboration	No	Yes	TBS (Treasury Board Secretariat), departments	TBD
47. Advance digital collaboration	Yes	No	TBS (Treasury Board Secretariat), departments	Ongoing
75. Expand open government training and outreach	Yes	No	TBS (Treasury Board Secretariat), CSPS	2018

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## Appendix C: key performance indicators

### Service

Strategic actions	Key performance indicators
Service management	
1. Develop IT (Information technology) service portfolios and catalogues	Published catalogues Client satisfaction with service targets Time lag to resolve a service target issue

Strategic actions	Key performance indicators
2. Report on key areas of IT (Information technology) system health performance	Client satisfaction
3. Implement enterprise IT (Information technology) service management tools	Number of departments and agencies using enterprise ITSM (IT service management) tools
48. Develop digital policy	New policy is published and in effect Implementation milestones are identified
49. Identify and prioritize SSC (Shared Services Canada) essential services	Prioritized list of SSC (Shared Services Canada) essential services is developed
50. Establish SSC (Shared Services Canada) asset inventory and baseline	SSC (Shared Services Canada) asset inventory and baseline are established
<b>Cloud first</b>	
7. Adopt cloud services	Percentage of operational spending allocated to cloud computing services
8. Establish a cloud service broker	Client satisfaction
9. Offer public cloud services	Percentage of operational spending allocated to public cloud computing services
10. Offer private cloud services	Percentage of operational spending allocated to private cloud computing services
<b>Technology modernization</b>	
4. Complete data centre consolidation and modernization	Number of data centres
5. Complete telecom / network consolidation	Number of departmental wide-area networks
6. Complete government email consolidation	Number of departmental email systems
<b>Information and data sharing</b>	
51. Determine the feasibility of developing a “tell us once” approach for government	Feasibility assessment is completed

<b>Strategic actions</b>	<b>Key performance indicators</b>
11. Build a platform for enterprise interoperability	Number of departments / departmental systems connected to the interoperability platform
52. Introduce a strategy for use of open source software and open standards	Strategy for use of open source software and open standards is developed
12. Introduce a mobile application strategy and framework	Mobile application strategy and framework are developed
53. Develop an API strategy	API strategy is developed
13. Introduce a government API store	Client satisfaction
54. Enhance online infrastructure to enable departments to release their data and information	Number of examples of use of government data and information to support innovation or economic growth
55. Develop master data management program	Program is defined
15. Advance analytics	Enterprise analytics platform requirements are developed
14. Implement a platform for external collaboration	Client satisfaction
56. Implement GCDOCS	Number of departments onboarded
57. Migrate websites to Canada.ca and assess options for a single GC digital service platform	Percentage of content migrated for 4 target organizations A strategy to set future direction is developed

## Manage

<b>Strategic actions</b>	<b>Key performance indicators</b>
<b>Governance</b>	
27. Establish enterprise IM (Information management)-IT (Information technology) governance	Percentage of departments adopting enterprise solutions

Strategic actions	Key performance indicators
28. Develop methods to prioritize investments in legacy and transformation initiatives	Documented methodology Number of IT (Information technology) and IT (Information technology)-enabled projects approved by CEPP (Committees on Enterprise Priorities and Planning)
29. Document roles and responsibilities for IT (Information technology) and IT (Information technology) security	Employee awareness of roles and responsibilities Number of employees trained in IT (Information technology) and IT (Information technology) security awareness
58. Introduce stronger project oversight at the concept phase	Oversight at the concept phase is established
59. Establish data governance	Governance principles are defined
<b>Enterprise architecture alignment and practices</b>	
30. Evolve IM (Information management)-IT (Information technology) management practices, processes and tools	Percentage of variance between budgets, forecasts and actual costs
31. Develop enterprise architectures for business, information, applications and technology	Percentage of IT (Information technology) budget assigned to enterprise architecture development and maintenance (concept cases in the 2018 to 2019 fiscal year)
32. Adopt agile approaches to implementing business solutions	Number of multi-departmental contracts being used
60. Standardize metadata	Metadata registry is developed
61. Develop information and data valuation framework	Pilot is complete and lessons learned documented toward broader adoption
62. Develop an information management performance framework	An information management performance framework is developed
<b>Agility and innovation</b>	
33. Lead innovation	Number of projects underway in partnership with innovation hubs

Strategic actions	Key performance indicators
34. Adopt modern and flexible business models	Cost-recovery business models adopted Number of departmental IT (Information technology) plans with full costing (including SSC (Shared Services Canada) component)
63. Provide tools and resources to make innovative use of information and data	A sandbox for developing and testing innovative use of information and data is available to departments and partners
64. Shift culture and processes toward open by design	Number of government-wide open government initiatives being implemented Percentage of Government of Canada processes that are open by default
65. Establish a Digital Advisory Board	A Digital Advisory Board is established
66. Establish digital government principles	Digital government principles are established
67. Advance financial management transformation	Policy instruments in support of GC (Government of Canada) financial management are developed
<b>Sustainability</b>	
35. Ensure IT (Information technology) infrastructure sustainability	Sustainable funding model in place
36. Rationalize investments	Number of at-risk applications retired Application evergreen plans in place Number of projects aimed at implementing common enterprise solutions
68. Develop process to balance infrastructure supply and demand	A framework allowing departments to access alternate service options is developed

## Security

Strategic actions	Key performance indicators
<b>Defence in depth</b>	



Strategic actions	Key performance indicators
16. Secure the government's network perimeter	Percentage of departments and agencies migrated to SSC (Shared Services Canada)-managed gateways Percentage of external partners using GC (Government of Canada) trusted interconnection points
17. Implement end-point security profiles	Percent increase in devices using end-point security profiles Number of incidents related to devices using end-point security profiles
18. Implement an enterprise approach to vulnerability and patch management	Percentage of GC (Government of Canada) IT (Information technology) systems with critical vulnerabilities
19. Manage and control administrative privileges	Number of inactive or unauthorized privileged accounts Percentage of privileged accounts configured for strong authentication
<b>Trusted solutions and services</b>	
20. Protect web transactions to and from external-facing websites	Percentage of external-facing websites and services that are accessible only through a secure connection ("HTTPS only") Percentage of internal websites and services that are accessible through a secure connection ("HTTPS only")
21. Implement an improved cyber-authentication service	Contract awarded for evolved cyber-authentication solution Number of new services signed on to enterprise cyber-authentication service Client satisfaction
22. Implement a trusted digital identity for people accessing internal government networks and systems	Percentage of GC (Government of Canada) workers with GCPass accounts Percent increase in GCPass authentication transactions

Strategic actions	Key performance indicators
23. Implement a secure communication service for classified information	<p>Percentage of users (within departments that have implemented this service) that have access to the service</p> <p>Number of departments and agencies using the common enterprise-wide secret network service</p> <p>Reduction in number of discrete departmental secret networks</p>
24. Implement enterprise data loss prevention	Reduced number of incidents (involving unauthorized disclosures of sensitive data, accidental or intentional)
<b>Awareness and understanding</b>	
25. Enable comprehensive understanding of end-point devices	<p>Average incident resolution time (decreased)</p> <p>Percent of end-point devices covered by the service</p>
26. Enhance awareness of enterprise cybersecurity threat and risk environment	Percentage of information systems monitored and tracked within the service

## Community

Strategic actions	Key performance indicators
<b><u>IM (Information management)-IT (Information technology) workforce</u></b>	
39. Enable career development	<p>Percentage of core public administration CSs with learning plans</p> <p>Number of departments using <u>IT (Information technology) community generics (CIO (Chief Information Officer) suite)</u></p>
40. Improve diversity	<p>Number of women occupying positions in the <u>CS (Computer systems) occupational group (comparison over time)</u></p> <p>Percentage of departments that have a strategy to promote gender parity</p>

Strategic actions	Key performance indicators
69. Strengthen recruitment	Recruitment campaign is developed Number of outreach activities to post-secondary institutions Number of onboarding tools and initiatives developed to improve integration of new recruits Partially assessed <u>CS (Computer systems)</u> inventory is developed
70. Modernize information and data management profession	Generic job descriptions, competency profiles, and organizational structures for information and data management professionals are developed, used <u>GC (Government of Canada)</u> -wide, and maintained evergreen
71. Develop information and data management training	Learning and training opportunities for information and data professionals are developed, tested, made available, and assessed for relevancy to support the business, and maintained evergreen
72. Strengthen leadership development	Number of <u>CS (Computer systems)</u> employees with a talent management plan Number of departments with a succession plan System for tracking <u>IM (Information management)-IT (Information technology)</u> leadership across the enterprise is developed
73. Lead targeted initiatives	Number of resourcing actions completed through the talent cloud
<b>Modern workplace</b>	
41. Modernize workplace technology devices	Enterprise standards and processes for life-cycle management are established Compliance with standards
42. Support a mobile workforce	A mobility strategy for the <u>GC (Government of Canada)</u> is developed Percentage of public service employees with mobile work devices

Strategic actions	Key performance indicators
43. Provide Wi-Fi access	Percentage of public service employees with access to Wi-Fi Number of wireless access points (WAPs) installed
44. Provide desktop videoconferencing to employees	Number of usage minutes by end-point
45. Implement managed print services	Number of departments at 8:1 average ratio of office employees to printing units
74. Improve IM (Information management)-IT (Information technology) accessibility	Number of targeted initiatives underway
<b>Digital collaboration</b>	
46. Promote digital literacy and collaboration	Number of GCTools Ambassadors by department Number of GCTools information sessions offered and the number of participants per session Data literacy engagement and awareness initiatives are underway
47. Advance digital collaboration	Percentage of public servants registered on GCTools
75. Expand open government training and outreach	Number of employees participating in open government learning opportunities Percentage of departments or agencies sending employees to open government learning opportunities

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## Appendix D: roles and responsibilities

The **Government of Canada** is made up of over 100 organizations that deliver a broad range of programs and services to individuals and businesses in Canada and abroad. Its programs and services are categorized into 4 spending areas:

1. economic affairs

2. social affairs
3. international affairs
4. government affairs

IM (Information management)-IT (Information technology) supports the government in delivering these external-facing programs and services.

The **Secretary of the Treasury Board** sets government-wide strategic direction for IM (Information management)-IT (Information technology), with input from departments' deputy heads, CIOs, information management senior officials and other stakeholders. The responsibility for delivering IM (Information management)-IT (Information technology) services is shared between government departments and central service providers such as Shared Services Canada and Public Services and Procurement Canada.

**Shared Services Canada** (SSC (Shared Services Canada)) has the mandate to provide data centres, networks and email services to the largest government departments. Smaller government departments receive these services on an optional basis. SSC (Shared Services Canada), Communications Security Establishment Canada, and Public Safety Canada have a shared responsibility for cybersecurity, with oversight provided by TBS (Treasury Board Secretariat). In addition, SSC (Shared Services Canada) is responsible for procuring hardware and software, including security software for workplace technology devices (the authorized physical devices and related software used in government office work). Departments are responsible for workplace technology device deployment, support and asset life-cycle management. SSC (Shared Services Canada) spends \$2 billion annually on the services it provides, portions of which it cost-recovers from federal departments.

**Public Services and Procurement Canada** (PSPC (Public Services and Procurement Canada)) provides IM (Information management)-IT (Information technology) services supporting back office services such as:

- human resource management systems
- pay and pension
- enterprise records and document management
- financial systems and services

SSC (Shared Services Canada) and PSPC (Public Services and Procurement Canada) jointly support federal departments in procuring IM (Information management)-IT (Information technology) goods and services.

The **Treasury Board of Canada Secretariat**, supported by the Chief Information Officer Branch, develops strategy and sets government-wide policy and mandatory requirements for IM (Information management), IT (Information technology) and cybersecurity, and provides guidance on implementing the direction through policy implementation notices.

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## Appendix E: definitions

### information management

A discipline that directs and supports effective and efficient management of information in an organization, from planning and systems development to disposal or long-term preservation. Source: Policy Framework for Information and Technology

### information technology

Includes any equipment or system that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. It includes all matters concerned with the design, development, installation and implementation of information systems and applications to meet business requirements. Source: Policy Framework for Information and Technology

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## Appendix F: draft digital principles

### 1. Understand users and their needs

Start with user needs and build for them, and with them. Conduct ongoing testing with users. Do the hard work so that they don't have to.

### 2. Iterate and improve frequently

Develop in an agile manner using alpha, beta and live phases. Test end-to-end and continuously improve in response to user feedback. Test early and often.

### 3. Build the right team

Create and empower multidisciplinary teams, linking policy with delivery.

### 4. Build a service-oriented culture

Lead and implement a team and departmental culture focussed on users.

5. **Work in the open**  
Share and collaborate in the open, plan to make data open from the start.
6. **Integrate proportionate security and privacy from the outset**  
Consider business context. Manage risks.
7. **Build in an open and interoperable way**  
Give equal consideration for open source. Use open standards. Build in an interoperable and reusable way.
8. **Use the right tools for the job**  
Use common government solutions and platforms. Build cloud first.
9. **Design and deliver transparent and ethical services**  
Be open and transparent in the use of automated systems and comply with ethical guidelines.
10. **Be inclusive and provide support for those who need it**  
Build in inclusiveness, official languages and accessibility by design.
11. **Know your data**  
Manage data in line with standards. Implement analytical tools and use the data you collect.
12. **Be accountable to Canadians**  
Define user-centred performance metrics. Publish real time data.
13. **Develop open and innovative partnerships**  
Recognize that an organization can't have all the best ideas. Create partnerships and collaborate.
14. **Spend money wisely**  
Enter into sensible contracts and comply with procurement standards.

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## Footnotes

- 1 Throughout this document, the term "departments" is used to denote GC (Government of Canada) departments, agencies and other federal organizations.

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2017,

ISBN: 978-0-660-24007-7

**Date modified:**

2017-11-28